

A review of the Scaphidiinae (Coleoptera: Staphylinidae) of the People's Republic of China, II

Ivan LÖBL

Muséum d'histoire naturelle, case postale 6434, CH-1211 Genève 6, Switzerland.

A review of the Scaphidiinae (Coleoptera: Staphylinidae) of the People's Republic of China, II. - The present paper is the second part of a review of the scaphidiines of the People's Republic of China. It treats the members of *Scaphisoma* Leach, which is the most speciose genus of the subfamily. Within the collections examined 54 species are recognized, from which the following 30 are described as new: *S. inversum*, *S. emeicum*, *S. serosum*, *S. subtile*, *S. aciculare*, *S. latro*, *S. signum*, *S. wolong*, *S. styloides*, *S. apertum*, *S. pseudantennatum*, *S. oppositum*, *S. acclivum*, *S. linum*, *S. serpens*, *S. parasolutum*, *S. pseudosolutum*, *S. vexator*, *S. pseudovarium*, *S. heishuense*, *S. paravarium*, *S. fibrosun*, *S. incisum*, *S. migrator*, *S. mutator*, *S. suspiciosum*, *S. irruptum*, *S. volitatum*, *S. vestigator*, and *S. dumosum*. *Scaphisoma lautum* Löbl and *Scaphisoma sinense* Pic are placed in synonymy of *Scaphisoma haemorrhoidale* Reitter. A key to the species of *Scaphisoma* of the People's Republic of China is provided.

Key-words: Coleoptera - Staphylinidae - Scaphidiinae - China - systematics.

INTRODUCTION

Scaphidiinae are mycophagous beetles feeding on a variety of fungi (e. g., Nuss, 1975; Lawrence & Newton, 1980; Newton, 1984). They are common on Polyporaceae, but also feed and develop on Hydnaceae, Clavariaceae, Agaricales, Heterobasidiomycetes, and slime moulds. They tunnel in carps and gills of the gilled and other mushrooms, build characteristic retreats and produce silk-lined pupal chambers (Ashe, 1984; Leschen, 1988 and 1994; Hanley, 1996). Scaphidiines are usually associated with dead wood or other decaying vegetational matter. Many species are cryptic but may be easily found in sieved forest litter. Their highest diversity is in moist, warm temperate, subtropical, and tropical forested areas. Such habitats have been largely destroyed in mainland China (see Jäch & Li, 1995), or are difficult to survey. Nevertheless, substantial new collections of scaphidiines were gathered in the course of the past decade. I have recorded 78 species in 12 genera in the first part of my review of the scaphidiines of the People's Republic of China (Löbl, 1999). Most of these species were recorded for the first time from China, and

18 were new to science. The present study treats *Scaphisoma* Leach which is the most speciose genus of the subfamily. At present 54 species are recognized, 30 of which are new and described below. The total number of scaphidiines is raised from 31 species described or recorded from mainland China prior to my 1999 paper, to 122 species. Yet it is difficult to estimate how far this number is representative and to extrapolate data pertaining to species diversity of scaphidiines of China. While members of almost all genera likely to occur in the country have been found, numerous additional species in most genera may be expected. The poor knowledge of the Chinese scaphidiines may be illustrated by the two records (each for one species) from the Northeastern Region of China, whereas from the neighboring Russian Far East 19 species are known (Löbl, 1993). No scaphidiines are recorded from Inner Mongolia, Tibet, and the Northwestern areas of China although at least two common species may be expected to occur there: *Scaphisoma inopinatum* Löbl which is distributed throughout large parts of the Eurasian continent and known from Mongolia and the Russian Far East (Löbl, 1970), and *Scaphium quadraticolle* Solsky, widely distributed in Central Asia, northern Pakistan and Kashmir included. Curiously, scaphidiines are unknown from Hainan and only two are from Guangdong, while at least 11 species occur in Hong Kong. Most material comes from Yunnan (72 species in total, 32 of them *Scaphisoma*) and Sichuan (with 33 species, 13 of them *Scaphisoma*), where the highest number of presumed narrow endemics also occur. Seven species are known from Fujian, all from a collection made in 1946 at «Kuatun» (= Guadun Village, Wuyi Shan, North Fujian; see Smetana, 1996); from other provinces usually less than 5 species are represented in the material studied. An other notable feature of the Chinese *Scaphisoma* is the relatively high number of species of the Palaearctic *S. subalpinum* and the Oriental *S. rouyeri* groups, and the low number of species of the Oriental *S. unicolor* group.

MATERIAL AND METHODS

Reference is made only to material coming from the People's Republic of China, referred below as to China. Most is from recent collections and housed in the Muséum d'histoire naturelle, Geneva (MHNG). Other collections which include specimens used in the present study are:

MNHN	Muséum National d'Histoire Naturelle, Paris
MMUE	The Manchester Museum, Manchester
NHMB	Naturhistorisches Museum, Basel
NMPC	National Museum, Praha
PCAP	Private collection A. Pütz, Eisenhüttenstadt
PCMS	Private collection M. Schülke, Berlin
SMNS	Staatliches Museum für Naturkunde, Stuttgart
SNMB	Slovak National Museum, Bratislava
ZMB	Zoologisches Museum, Berlin

The methods are as given in my preceding publications: the length of the body is measured from the anterior pronotal margin to the inner apical angle of the elytra;

the lateral keels of the pronotum and elytra, and the plane of the inner and outer apical angles of the elytra is observed in dorsal view. The presence, but not the absence, of the antecoxal puncture row of the metasternum is quoted. The length ratio of the antennal segments is measured from dry specimens, at high (100 to 200x) magnification. This ratio is not given in species of the *S. haemorrhoidale* group in which it does not provide diagnostic characters. The genitalia of all males were dissected and mounted in Canada balsam on slides. The length of the aedeagi is taken from genitalia mounted on slides.

The previously described species are listed alphabetically, the new species are ranged according to their relationships.

Nevertheless, some males and numerous females from various collections could not be assigned to any defined species.

KEY TO THE SCAPHISOMA OF CHINA

- 1 Elytra each with sutural stria extended along base to form basal stria 2
- Elytra without basal striae 18
- 2 Elytra with basal striae entire, joined to lateral striae 3
- Elytra with basal striae extending to midwidth of base, or to humeral area, not joined to lateral striae 5
- 3 Elytra each with dark discal spot *notatum* Löbl
- Elytra lacking discal spot 4
- 4 Antennal segment 5 much shorter than segments 3 and 4 combined *styloides* sp. n.
- Antennal segment 5 about as long as segments 3 and 4 combined. *serpens* sp. n.
- 5 Antennal segment 5 much longer than segments 3 and 4 combined 6
- Antennal segment 5 about as long as, or distinctly shorter than, segments 3 and 4 combined 7
- 6 Antennal segment 5 about 3 times as long as segment 4 . . . *pseudorufum* Löbl
- Antennal segment 5 twice as long as segment 4 *serosum* sp. n.
- 7 Metacoxal line parallel 8
- Metacoxal line arcuate or subangulate 9
- 8 Antennal segments 5 and 6 equally long *aciculare* sp. n.
- Antennal segment 5 much shorter than segment 6 *uniforme* Löbl
- 9 Antennal segment 6 longer than segments 4 and 5 combined 10
- Antennal segment 6 shorter than segments 4 and 5 combined 12
- 10 Aedeagus gradually narrowed apically, basal bulb much shorter than distal process; flagellum robust, angulate in basal portion (Fig. 27) *oppositum* sp.n.
- Aedeagus abruptly narrowed apically, basal bulb much longer than distal process; flagellum not angulate 11
- 11 Aedeagal apex truncate, flagellum very thin (Fig. 25) . *pseudantennatum* sp. n.
- Aedeagal apex hook-like, flagellum robust (Figs 29, 30) *acclivum* sp. n.
- 12 Abdomen with microsculpture consisting of transverse striae . . . *latro* sp. n.

- Abdomen lacking microsculpture, or with punctulate microsculpture 13
- 13 Mesocoxal line subparallel 14
- Mesocoxal line arcuate or subangulate 15
- 14 Punctuation on mediobasal portion of first abdominal sternite much more coarse and dense than that on apical or lateral portions of same sternite. Internal sac of aedeagus lacking spinose or squamose structures . *subtile* sp. n.
- Punctuation of first abdominal sternite entirely very fine and sparse. Internal sac of aedeagus with spinose structures (Fig. 23) *apertum* sp. n.
- 15 Large species, body 2.1 to 2.3 mm long. Internal sac of aedeagus with flagellum *linum* sp. n.
- Small species, body 1.2 to 1.7 mm long. Internal sac of aedeagus with or without flagellum 16
- 16 Mesocoxal line subangulate, mesocoxal area as long as, or longer than, metacoxal area. Aedeagus asymmetrical *brunneonotatum* Pic
- Mesocoxal line arcuate, mesocoxal area shorter than metacoxal area. Aedeagus symmetrical 17
- 17 Internal sac of aedeagus with sclerotized flagellum *wolong* sp. n.
- Internal sac of aedeagus without flagellum or rods *portevini* Pic
- 18 Minute species, body length below 1 mm *minutissimum* Champion
- Larger species, body length exceeding 1 mm 19
- 19 Antennal segment 6 as long as, or longer than, segments 4 and 5 combined 20
- Antennal segment 6 shorter than segments 4 and 5 combined 21
- 20 Abdomen with punctulate microsculpture. Aedeagus asymmetrical *falciferum* Löbl
- Abdomen with microsculpture consisting of striae. Aedeagus symmetrical *japonicum* Löbl
- 21 Elytra with sutural striae short, starting posterior level of tip of pronotal lobe, distant from basal margin 22
- Elytra with sutural striae longer, starting at each side of pronotal lobe, close to elytral margin 23
- 22 Abdomen with microsculpture consisting of striae. Body large, length 1.9 mm *pseudosolutum* sp. n.
- Abdomen lacking microsculpture. Body smaller, length 1.3-1.5 mm *laevigatum* Löbl
- 23 Elytra with adsutural areas conspicuously widened toward base, sutural striae angulate *dohertyi* Pic
- Elytra with adsutural areas not particularly widened anteriorly, sutural striae not angulate anteriorly 24
- 24 Prohypomera distinctly microsculptured 25
- Prohypomera lacking microsculpture 26
- 25 Anterior two thirds of elytra coarsely punctate, posterior third of elytra very finely punctate, appearing impunctate *rufescens* (Pic)

- Entire elytra with fairly coarse punctation *pseudodelictum* Löbl
- 26 Antennal segment 3 conspicuously long, about as long as two thirds of
segment 4 *parasolutum* sp. n.
- Antennal segment 3 short, usually about as long as one third, not longer
than half of segment 4 27
- 27 Exposed abdominal segments lacking microsculpture, or with punctate
microsculpture 28
- All exposed abdominal segments with microsculpture consisting of
transverse striae, or first sternite lacking microsculpture, remainder
of abdomen with distinct striate microsculpture 31
- 28 Mesocoxal line subtriangular, mesocoxal area longer than metacoxal
area *maindroni* Achard
- Mesocoxal line arcuate, mesocoxal area as long as or shorter than
metacoxal area 29
- 29 Elytra each with dark, transverse, central and apical fasciae . . . *invertum* sp. n.
- Elytra lacking dark fasciae 30
- 30 Aedeagus asymmetrical, with parameres extremely narrow
. *unicolor* Achard
- Aedeagus symmetrical, with parameres normally wide *segne* Löbl
- 31 Pronotum light, with dark median fascia extended from base to anterior
margin *vexator* sp. n.
- Pronotum without dark median fascia 32
- 32 Pronotum dark brown or black on large central part of disc, light
ochreous along lateral margins; elytra each with black basal area and
very dark brown or black subapical spot *paravarium* sp. n.
- Colour pattern different 33
- 33 Elytra and pronotum uniformly ochreous or dark brown, or elytra
slightly darkened subapically 34
- Elytra bicolorous, often with distinctive colour patten, not darkened
subapically 38
- 34 Aedeagus with basal bulb partly overlapping distal process 35
- Aedeagus with basal bulb not overlapping distal process 36
- 35 Parameres with distinct membranous lobe in middle portion . . . *pressum* Löbl
- Parameres without distinct membranous lobe (Fig. 61) *incisum* sp. n.
- 36 Parameres expanded proximally to form large basal lobes entirely
exposed in dorsal view; apical portion of parameres widened in dorsal
view (Fig. 7) *signum* sp. n.
- Parameres not expanded proximally to form lobes and usually not
widened apically 37
- 37 Antennal segment 6 wider than segment 5. Body dark reddish-brown.
Adsutural areas of elytra distinctly raised *emeicum* sp. n.
- Antennal segments 5 and 6 equally wide. Body light ochreous or light
reddish-brown. Adsutural areas of elytra flat *nakanei* Löbl

- 38 Elytra each with darkened basal area usually forming triangular pattern, and often with additional dark central or subapical spot 39
- Elytra each with apical sixth to apical third light, remainder of surface uniformly reddish-brown to black, as pronotum 42
- 39 Elytra usually with darkened central area, prothorax light ochreous. Parameres of aedeagus arcuate, each with large, wide membranous lobe *atronotatum* Pic
- Elytral not darkened in center; prothorax dark. Parameres usually with narrow, small lobes 40
- 40 Elytra with inner apical angles prominent and acute. Elytral punctation conspicuously coarse *fibrosium* sp. n.
- Elytra with apical angles rounded, not prominent. Elytral punctation not conspicuously coarse 41
- 41 Parameres of aedeagus lobed in middle, arcuate in apical half (Fig. 46) *pseudovarium* sp. n.
- Parameres of aedeagus lacking lobes, arcuate in apical fourth (Fig. 49) *heishuiense* sp. n.
- 42 Aedeagus with distal process completely overlapped by basal bulb 43
- Aedeagus with distal process not, or partly overlapped by basal bulb 45
- 43 Aedeagus with parameres arcuate in dorsal view 44
- Aedeagus with parameres sinuate in dorsal view (Fig. 71) *suspiciosum* sp. n.
- 44 Aedeagus with parameres widened posterior middle, with wide apical portion; internal sac with subapical narrow rod, lacking central rod (Fig. 75) *irrumptum* sp. n.
- Aedeagus with parameres equally wide in apical half; internal sac with long, narrow, central rod (Figs 83, 85) *vestigator* sp. n.
- 45 Internal sac of aedeagus with one or two sclerotized rod/s 46
- Internal sac of aedeagus lacking rods 47
- 46 Parameres of aedeagus curved, wide, in apical portion much wider than at narrowest point near middle (Fig. 82) *volitatum* sp. n.
- Parameres of aedeagus with parameres narrow, almost straight, in apical portion as wide as in middle *cederholmi* Löbl
- 47 Internal sac of aedeagus with several, long, strongly sclerotized, straight or slightly oblique, apical denticles 48
- Internal sac of aedeagus without apical denticles, or with cluster of numerous, short, curved, apical denticles 50
- 48 Internal sac of aedeagus with subapical, triangular, sclerotized plate (Fig. 88) *dumosum* sp. n.
- Internal sac of aedeagus lacking subapical, sclerotized plate 49
- 49 Denticles present throughout entire width of apical portion of internal sac *migrator* sp. n.
- Denticles present in medio-apical portion of internal sac only *morosum* Löbl
- 50 Internal sac of aedeagus with two subapical clusters of strongly sclerotized, curved denticles *geminatum* Löbl

- Internal sac of aedeagus without subapical clusters of strongly sclerotized denticles 51
- 51 Basal portion of internal sac of aedeagus lacking median row of denticles . 52
- Basal portion of internal sac of aedeagus with long, median row of strongly sclerotized denticles 53
- 52 Punctuation on large basal portion of elytra very fine, contrasting with punctuation on elytral center. Internal sac without basal spicules . *innotatum* Pic
- Punctuation on most of basal area of elytra about as coarse as that on elytral center. Internal sac with proximal spicules *fortipatum* Champion
- 53 Internal sac of aedeagus with pair of lateral lobes; paramers weakly arcuate. Elytra often with reddish, humeral spot *haemorrhoidale* Reitter
- Internal sac of aedeagus lacking lateral lobes; parameres strongly arcuate (Fig. 68). Elytra without humeral spot *mutator* sp. n.

NEW RECORDS AND COMMENTS

Scaphisoma atronotatum Pic, 1920

Redescription, aedeagus: Löbl, 1970: 152, Figs 5, 6; Löbl, 1990b: Figs 67, 68.

Material examined. China, Yunnan, Xishuangbanna, 24.i.1993, G. de Rougemont, 2 (MHNG); Gaoligong Mts, 2200-2500m, 24°57'N, 98°45'E, 8-16.v.1995, O. Semela, 1 (NHMB) and same data but 1500-2500m, 17-24.v. 1995, 4 (NHMB, MHNG); Yunnan, Hengduan Mts, Meili, 2700m, 28°06'N 98°54'E, 5-8.vii.1996, O. Semela, 1 (MHNG); Yunnan, Kuming, western hills, 9.vii.1990, L. & M. Bocák, 1 (NHMB); Yunnan, Yipinglang, 1800m, 25°05'N, 101°53'E, 8-10.vi.1993, Bolm, 1 (NHMB); same but 1800-2000m, 25°04', 17-20.vi.1994, V. Kubán, 2 (NHMB).

Distribution. Nepal; Burma; Thailand; China: Yunnan.

Scaphisoma brunneonotatum Pic, 1923

Aedeagus: Löbl, 1980, Figs 27, 28; diagnostic characters: Löbl, 1982: 105.

Material examined. China, Hong Kong, Aberdeen, 10.viii.1996, J. Fellowes, 16 (MHNG); Hong Kong, Saikung, Tai Mong Tsai, 1.viii.1996, J. Fellowes, 24 (MHNG); Hong Kong, iii, v, ix-xii. 1996, G. de Rougemont, 36 (MHNG); Hong Kong, N.T., Tai Po Kau, iv.1992, G. de Rougemont, 11 (MHNG); Guangxi, Guilin, 22.ix.1995, G. de Rougemont, 12 (MHNG).

Distribution. Japan: Ryukyu's; Taiwan; Thailand; Vietnam; China: Guangxi, Hong Kong.

Scaphisoma cederholmi Löbl, 1971

Diagnostic characters, aedeagus: Löbl, 1986a: 193, Fig. 74.

Material examined. China, Hong Kong, v.1996, G. de Rougemont, 2 (MHNG).

Distribution. Sri Lanka; India; Thailand; China: Hong Kong.

Scaphisoma dohertyi Pic, 1915

Diagnostic characters, aedeagus: Löbl, 1981b: 107, Fig. 5.

Material examined. China, Yunnan, Xishuangbanna, 24.i.1993, G. de Rougemont, 2 (MHNG); Yunnan, Mengyang Nat. Res., ca 500m, 9.ix.1994, S. A. Kurbatov, 3 (MHNG).

Distribution. India; Indonesia; Thailand; Malaysia; Vietnam; China: Yunnan.

Scaphisoma falciferum Löbl, 1986

Description, aedeagus: Löbl, 1986b: 359, Figs 14, 15.

Material examined. China, Yunnan, Gaoligong Mts, 25°22'N, 98°49'E, 17-24.v.1995, O. Semela, 1 (MHNG).

Distribution. Pakistan; India; Nepal; China: Yunnan.

Scaphisoma forcipatum Champion, 1927

Diagnostic characters, aedeagus: Löbl, 1986a: 198, Figs 88-91.

Material examined. China, Yunnan, 25°22'N, 98°49'E, Gaoligong Mts, 1500-1800m, 17-24.v.1995, O. Semela, 1 (NHMB).

Distribution. Pakistan; India; Nepal; China: Yunnan.

Scaphisoma geminatum Löbl, 1986

Description, aedeagus: Löbl, 1986a: 212, Figs 112-114.

Material examined. China, Guangdong, Qi Mu Zhang, 5.iv.1997, leaf litter, J. Fellowes, 1 (MHNG).

Distribution. India; China: Guangdong.

Comments. This specimen has the two central clusters of robust denticles in the internal sac of the aedeagus oriented apically, and notably longer and those in the specimens from India. Besides, it differs slightly in the shape of the apical portion of the parameres and in the structure of the basal portion of the internal sac.

Scaphisoma haemorrhoidale Reitter, 1877

Redescription, aedeagus: Löbl, 1970: 791, Figs 76, 77.

Type material examined. *Scaphisoma sinense* Pic, 1920: 5; lectotype ♂ (MNHM), paralectotype ♀ (SNMB), from Nankin - **syn. n.** *Scaphisoma lautum* Löbl, 1965b: 30; holotype ♂ from Fujian, Kuantun (MNHM) - **syn. n.**

Additional material examined. China, Beijing, Xiaolongmen, 1200m, 1.vii.1993, G. de Rougemont, 1 (MHNG); Beijing, airport, 50m, 17.v.1997, M. Schülke, 1 (PCMS); Jiangsu, Nanjing, 17.viii.1994, G. de Rougemont, 2 (MHNG); Jiangsu, Nanjing Agric. Univ., vii.1991, R.J.Cooter, 1 (MMUE); "Nankin", 1 (MHNG); Hubei, Chengde, 15.ix.1995, G. de Rougemont, 1 (MHNG); Luoyang, viii.1982, G. de Rougemont, 4 (MHNG).

Distribution. Japan; Korea; Russian Far East; China: "Manchuria", Beijing, Hubei, Jiangsu, Liaoning, Fujian, Yunnan.

Comments. The variability of some characters was underestimated by Löbl (1965b). In addition, the lectotype of *S. sinense* and the holotype of *S. lautum* have the internal sacs of the aedeagi extruded, making observation of the diagnostic structures difficult. It is notable that almost all specimens from China have the subhumeral area of the elytra reddish, in addition to the light apical area. A similar colour pattern is rarely present in specimens from Japan.

Scaphisoma innotatum Pic, 1926

Diagnostic characters, aedeagus: Löbl, 1881b: 110, Fig.8; redescription. aedeagus: Löbl, 1986a: 2201, Figs 92-94.

Material examined. China, Yunnan, Ruili, 4.ii.1993, G. de Rougemont, 4 (MHNG).

Distribution. India; Nepal; Thailand; Vietnam; China: Yunnan.

Scaphisoma japonicum Löbl, 1965

Redescription, aedeagus: Löbl, 1970: 779, Figs 62, 63.

Material examined. China, Liaoning, Mt. Shi Fang Ding, Dandong City, 25.viii.1996, J. Li, 9 (MHNG).

Distribution. Far East Russia; Japan; China: Liaoning.

Scaphisoma laevigatum Löbl, 1970

Description: Löbl, 1970: 755, Figs 29, 30; diagnostic characters, aedeagus: Löbl, 1980: 103, Fig. 15.

Material examined. China, North Yunnan, 30km N of Lijiang, 3000m, 3.vii.1990, L. & M. Bocák, 2 (MHNG NHMB); Yunnan, Jizushan, 2500-3100m, 25°58'N, 100°21'E, 30.v.-3.vi.1993, V. Kubán, 1 (MHNG) and Bolm, 1 (NHMB).

Distribution. Far East Russia; Japan; Taiwan; China: Yunnan.

Scaphisoma maidroni Achard, 1920

Diagnostic characters, aedeagus: Löbl, 1979: 102, Fig. 24.

Material examined. China, Hong Kong, iii-iv. 1996, G. de Rougemont, 4 (MHNG); Guizhou, Huaxi, x.1986, G. de Rougemont, 4 (MHNG); Yunnan, Shi Lin, 8.x.1985, G. de Rougemont, 1 (MHNG).

Distribution. Pakistan; India; Nepal; Thailand; Vietnam; China: Guizhou, Hong Kong, Yunnan.

Scaphisoma minutissimum Champion, 1927

Redescription, aedeagus: Löbl, 1992: 538, Fig. 126.

Material examined. China, South Yunnan, Mengyang Nat. Res., ca 500m, 10.ix.94, litter and 12.ix.1994, rotten wood, S. A. Kurbatov, 2 (MHNG).

Comments. Both specimens are females very similar in external characters to specimens of *S. minutissimum* from North India. Their identification is tentative in absence of male.

Scaphisoma morosum Löbl, 1990

Description, aedeagus: Löbl, 1990b: 589, Figs 129-131.

Material examined. China, Yunnan, Ruili, 4.ii.1993, G. de Rougemont, 1 (MHNG).

Distribution. Burma; Thailand; China: Yunnan.

Scaphisoma nakanei Löbl, 1980

Description, aedeagus: Löbl, 1980: 107, Figs 22, 23.

Material examined. China, Jiangsu, Nanjing, 17.viii.1994, G. de Rougemont, 4 (MHNG); Jiangsu, Nanjing, Zijishan, 8.v.1996, J. Cooter, 2 (MHNG); Hong Kong, iii, x-xii.1996, G. de Rougemont, 7 (MHNG).

Distribution. Taiwan; China: Jiangsu, Hong Kong.

Scaphisoma notatum Löbl, 1986

Description, aedeagus: Löbl, 1986a: 154, Figs 16, 17.

Material examined. China, Yunnan, Gaoligong Mts, 2200-2500m, 24°57'N, 98°45'E, 8-16.v.1995, O. Semela, 2 (NHMB, MHNG); West Sichuan, Ganzi Tibet Aut. Pref., Luding Co. W Erlangshan-Pass, 2600m, 7km SSE Luding, 29°51'N, 102°15'E, 20.vi.1999, M. Schülke, 2 (PCMS); West Sichuan, Ya'an Pref., Shimian Co., Shimian-Ganluo, 27km south Shimian, 2450m, 29°02'N 102°31'48"E, springfedswamp, 8.vii.1999, A. Pütz, 2 (PCAP).

Distribution. Pakistan; North India; Nepal; China: Sichuan, Yunnan.

Scaphisoma portevini Pic, 1920

Redescription, aedeagus: Löbl, 1965b: 29, Figs 2a,b.

Material examined. China, Yunnan, Lijiang, 26°53'N, 100°18'E, 1800m, 23.vi.-21.vii.1992, S. Becvár, 8 (MHNG); Yunnan, Dali, 1600-2000m, 5-8.vii.1990, L. & M. Bocák, 1 (NHMB); Yunnan, Jizu Shan, 2500-2700m, 25°58'N, 100°21'E, 6-10.vii.1994, V. Kubán, 13 (NHMB, MHNG); Yunnan, Yipinglang, 1800-2000m, 25°04'N, 101°53'E, 17-20.vi.1994, V. Kubán, 3 (NHMB, MHNG); (NHMB, MHNG); Yunnan, Shi Lin, 8.x.1985, G. de Rougemont, 2 (MHNG); Yunnan, Ruili, iii.1993, G. de Rougemont, 1 (MHNG); Sichuan, Mt. Emei, 1700m, 22.ix.1994, S. A. Kurbatov, 1 (MHNG); South Sichuan, nr. Xichang, 1600m, 28.vii.1996, litter, S. A. Kurbatov, 1 (MHNG); NE Guangxi, 10km south Longsheng, ca 1000m, 15.vi.1995, S. A. Kurbatov, 1 (MHNG).

Distribution. Korea; Japan; China: Guangxi, Sichuan, Yunnan.

Comments. This species is very similar to *S. rufum* Achard for which it was mistaken a few times (see comments in Löbl, 1986a). As the shape of the internal sac of *S. portevini* is diagnostic only dissected males are recorded above.

Scaphisoma pressum Löbl, 1990

Description, aedeagus: Löbl, 1990: 571, Figs. 92-95.

Material examined. China, South Yunnan, Mengyang Nat. Res., ca 500m, 11.ix.1994, S. A. Kurbatov, 4 (MHNG).

Distribution. Thailand; China: Yunnan.

Scaphisoma pseudodelictum Löbl, 1986

Description, aedeagus: Löbl, 1986a: 180, Figs 54, 55.

Material examined. China, Yunnan, Ruili, 4.ii.1993, G. de Rougemont, 1 (MHNG); Xishuangbanna, 24.i.1993, G. de Rougemont, 2 (MHNG); Yunnan, Mengyang Nat. Res., ca 500m, 9.ix.1994, S. A. Kurbatov, 4 (MHNG).

Distribution. India; Thailand; China: Yunnan.

Scaphisoma pseudorufum Löbl, 1986

Description, aedeagus: Löbl, 1986a: 143, Fig. 3.

Material examined. China, South Yunnan, Mengyang Nat. Res., ca 500m, 9-14.ix.1994, S. A. Kurbatov, 7 (MHNG); Yunnan, Gaoligong, 1500-2500m, 25°22'N, 98°49'E, 17-24.v.1995, O. Semela, 3 (NHMB, MHNG); Northeast Guangxi, 10km south Longsheng, ca 1000m, 15.vi.1995, S. A. Kurbatov, 1 (MHNG).

Distribution. North India; Nepal; China: Guangxi, Yunnan.

Scaphisoma rufescens (Pic, 1920)

Redescription, aedeagus: Löbl, 1981a: 157, Fig. 4.

Material examined. China, Yunnan, Ruili, 4.ii.1993, G. de Rougemont, 1 (MHNG); Xishuangbanna, 24.i.1993, G. de Rougemont, 2 (MHNG); Mengyang Nat. Res., ca 500m, 9.ix.1994, S. A. Kurbatov, 3 (MHNG).

Distribution. East Malaysia; Singapore; Thailand; Vietnam; China: Yunnan.

Scaphisoma segne Löbl, 1990

Description, aedeagus: Löbl, 1990b: 568, Figs 87-89.

Material examined. China, Sichuan, Mt. Emei, 1500 and 1800m, 21 and 24.ix.1994, S. A. Kurbatov, 4 (MHNG); Sichuan, Mt. Emei, Wannian, 1050m, 19-30.iii.1999, W. Schawaller, 1 (SMNS); Zhejiang, Lin'an County, W Tianmu Shan N.R., ca 500m, 16.v.1996, J. Cooter, 1 (MHNG); Yunnan, Yipinglang, 25°04'N, 101°55'E, 1800-2000m, 17-20.vi.1996, V. Kuban, 6 (NHMB, MHNG).

Distribution. Thailand; China: Sichuan, Yunnan, Zhejiang.

Comment. Four males are present in the collections examined, and all were dissected. Their aedeagi are very similar to that of holotype but they lack the large sclerified denticles in the internal sac.

Scaphisoma unicolor Achard, 1923

Redescription, aedeagus: Löbl, 1970: 772, Figs 50, 51; aedeagus: Löbl, 1980: Fig. 26.

Material examined. China, South Yunnan, Mengyang Nat. Res., ca 500m, 11.ix.1994, S. A. Kurbatov, 1 (MHNG).

Distribution. India; Nepal; Thailand; Japan; Russian Far East; Taiwan; China: Yunnan.

Scaphisoma uniforme Löbl, 1986

Description, aedeagus: Löbl, 1986a: 157, Fig. 20.

Material examined. China, Yunnan, Weibaoshan, 25°12'N 100°24'E, 2000-3000m, 29-30.vi.1992, V. Kuban, 1♂ (MHNG).

Distribution. North India; Nepal; China: Yunnan.

Comments. This species is variable in the colour of the body and elytral punctuation. The shape of the basal portion of the flagellum is diagnostic.

DESCRIPTIONS OF NEW SPECIES

Scaphisoma invertum sp. n.

Figs 1, 2

Holotype ♂: China. Northeast Guangxi, 10km south Longsheng, ca 1000m, 15.vi.1995, forest litter, S. A. Kurbatov (MHNG).

Paratypes: same data as holotype, 2 ♂, 7 ♀; South Yunnan, Mengyang Nat. Res., ca 500m, 14.ix.1994, in rotten wood, S. A. Kurbatov, 2 ♂ (MHNG); Yunnan, Maguan, 23°04'N, 104° 25'E, 1500-1600m, 25-26.vi.1994, V. Kubán, 1 ♂ (NHMB).

Description. Length 1.3-1.5 mm. Body ochreous. Elytra usually dark along base, in middle and near apices. Central and subapical dark area usually distinct and forming transverse fasciae. Surface between dark areas lighter than pronotum. Apical abdominal segments and appendages light ochreous or yellowish. Length ratio of antennal segments 3 to 11 as follows: 3: 9: 11: 12: 16: 13: 15: 15: 17 (holotype); segment 4 narrow, 4 times as long as wide; segments 5 and 6 almost equally wide, distinctly wider than segment 4, each about 4 times as long as wide; segments 7 and 8 each about 4 times as long as wide; segment 11 about 3 times as long as wide. Pronotum with lateral margins almost evenly rounded; lateral keels entirely concealed or exposed in basal half; punctation sparse and extremely fine. Tip of scutellum exposed. Elytra each with lateral margin slightly arcuate near base and apices, oblique in middle; apical margin slightly rounded; inner apical angles at same level as outer apical angles; sutural margin not or slightly raised; adsutural areas flat; sutural striae almost parallel, near base slightly curved, not extended along basal margin; discal punctation fairly dense and very fine, more distinct than that on pronotum. Prohypomera smooth. Mesepimeral ridge slightly longer than interval to mesocoxa. Metasternum flat in middle portion, very finely and sparsely punctate, lacking median impressions and without microsculpture. Mesocoxal linea arcuate, finely punctate; mesocoxal area 0.05 mm long. Metepisternum in same plane as metasternum, flat, moderately narrowed anteriorly, with suture straight, rounded only at angles. Abdominal punctation even, very fine and sparse. First exposed sternite lacking microsculpture. Metacoxal lines arcuate, rather coarsely punctate; metacoxal areas 0.08 mm long. Apical abdominal tergites and sternites with punctulate microsculpture.

Male sexual characters. Segments 1 to 3 of protarsi widened. Aedeagus (Figs 1, 2) 0.42-46 mm long. Median lobe symmetrical, weakly sclerotized, with large basal bulb. Ventral tubercles large, prominent. Distal process of median lobe short, obliquely inflexed, gradually narrowed, with apex wide in dorsal view, abruptly narrowed and with acute tip in lateral view. Internal sac tubular, long, widened apically, looped basally, lacking sclerites, covered by dense, minute, squamose or denticular structures. Parameres moderately bent in dorsal and lateral views, almost evenly wide.

Comments. This species has the aedeagus structurally similar to that in *S. invisum* Löbl, *S. discretum* Löbl, and *S. binaluanum* Pic. As the aedeagi in these species lack obvious derived characters, their relationships remain uncertain. *Scaphisoma inversum* may be readily distinguished from *S. discretum* and *S. invisum* by the colour pattern of the elytra. In addition, *S. invisum* is characterized by the antennal

segment 5 longer than segment 6, the mesocoxal areas relatively very large, longer than the metacoxal areas and the first abdominal sternite microsculptured. The new species differs notably from *S. discretum* by the antennal segment 4 much longer and the antennal segment 6 much shorter, compared with segment 5, and by the abdominal segments lacking striate microsculpture. It may be distinguished readily from *S. binaluanum* by the lack of striate microsculpture on abdominal segments.

Scaphisoma emeicum sp. n.

Figs 3, 4

Holotype ♂: China, Sichuan, Mt. Emei, 1700m, 22.ix.1994, S. A. Kurbatov (MHNG).

Paratypes: same data as holotype, 1♂, 2♀; same data but 23.ix., 1♂; same data but 1500m, 21.IX, 2♂; same data but 1800m, 24.ix., 1♂ (all MHNG).

Description. Length 1.4-1.5 mm. Body uniformly very dark brown or almost blackish. Apex of abdomen and appendages ochreous, tarsi and antennae lighter than tibiae and femora. Length ratio of antennal segments 3 to 11 as follows: 3: 9: 11: 11: 15: 12: 14: 14: 16 (holotype); segments 4 and 5 each about 4 times as long as wide; segments 6, 7, 8 and 11 each about 3 times as long as wide. Pronotum with lateral margins evenly arcuate; lateral keels not visible; punctation dense and very fine, consisting of minute, very shallow and not well delimited punctures. Scutellum completely covered by pronotal lobe, or minute point of scutellum exposed. Elytra each with slightly arcuate lateral margin; lateral keel not visible; apical margin truncate; inner apical angle lying at, or somewhat posterior to level of outer angle; sutural margin not raised; adsutural area flat near base, raised in posterior two thirds; sutural striae diverging in posterior third, parallel from apical third to level of pronotal lobe, slightly curved along pronotal lobe, not extended along basal margin. Prohypomera smooth. Mesepimeral ridge longer than interval to mesocoxa. Metasternum without microsculpture, flat in middle and without medio-apical impressions. Metasternal punctation fine and fairly dense, very fine on latero-anterior area. Mesocoxal line arcuate, finely punctate; mesocoxal area 0.05 mm long. Metepisternum flat, in same plane as metasternum, strongly narrowed anteriorly, with suture straight. Abdomen with microsculpture consisting of transverse striae and/or short waves. Punctation on pygidium extremely fine. First exposed sternite with punctation dense and fairly coarse in middle, sparse and very fine on lateral portions. Punctation on following sternites obsolete. Metacoxal line strongly arcuate, finely punctate; metacoxal area 0.07 mm long.

Sexual characters of male. Segments 1 to 3 of protarsi widened. Aedeagus (Figs 3, 4) 0.43-0.47 mm long. Median lobe symmetrical, with basal bulb fairly large and moderately sclerotized. Ventral tubercles large, slightly prominent. Distal process of median lobe slightly shorter than basal bulb, inflexed, curved, gradually narrowed apically, with tip obtuse in dorsal view, acute in lateral view. Dorsal valve single, membranous. Parameres moderately inflexed, wide, gradually narrowed toward apical third, slightly sinuate in dorsal view, straight in lateral view. Internal sac with denticulate and spinose structures. Rows of large and stronger sclerotized denticles distinct in lateral view, in ventro-apical part of internal sac.

Comments. This species is likely related to *S. vagans* Löbl and *S. iriomotense* Löbl, with which it shares most of the aedeagal characters. The new species may be easily distinguished from *S. sagans* by the metepisternal suture which is convex, and the elytral punctation which is notably coarser in the latter species. *Scaphisoma iriomotense* may be easily distinguished by the antennae with segments 3 to 5 about as long as segment 6.

Scaphisoma serosum sp. n.

Figs 5, 6

Holotype ♂: China, Central Sichuan, Wolong Nat. Res., 1000m, 24.v.1994, rotten wood, S. A. Kurbatov (MHNG).

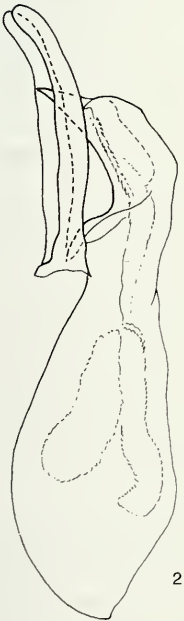
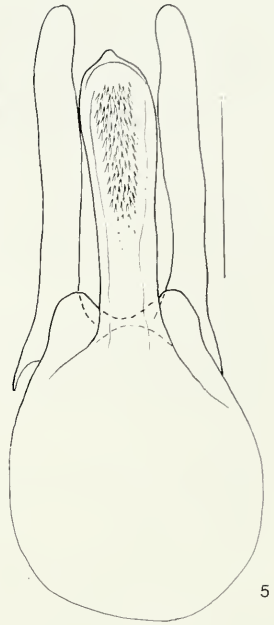
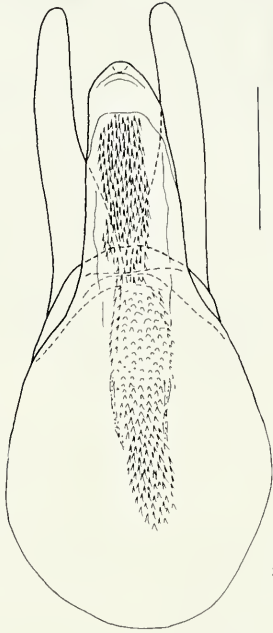
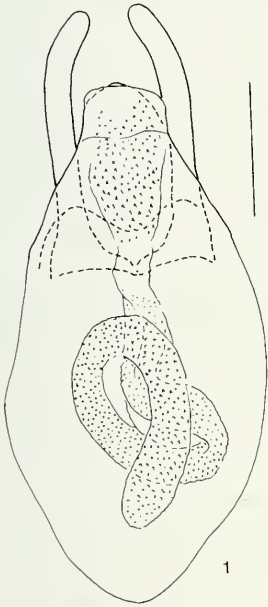
Paratypes: same data as the holotype, 1 ♂ (MHNG); same data but 1700m, 19.v.1994, litter, 1 ♂ (MHNG).

Description. Length 1.7 mm. Body dark reddish-brown. Elytra each with wide, light ochreous, subapical fascia. Femora and tibiae reddish, lighter than thorax. Apical abdominal segments, tarsi and antennae light, ochreous. Length ratio of antennal segments 3 to 11 as: 5: 10: 20: 19: 25: 20: 25: 25: 27 (holotype); segments 4 and 5 each about 4 times as long as wide; segments 6, 7 and 8 each about 3 times as long as wide; segment 11 about 3.5 times as long as wide. Pronotum with evenly arcuate lateral margins; lateral keels concealed; punctation dense and fine, punctures much smaller than puncture intervals. Tip of scutellum exposed. Elytra each with moderately rounded lateral margins; lateral keel hardly visible near base and near apex, not visible in middle portion (dorsal view); apical margin slightly arcuate; inner apical angle rounded, not prominent, situated at same level as outer apical angles; sutural margin not raised; adsutural area flat; sutural stria parallel to suture, curved near base and extended laterally to reach outer fourth of basal width, not joined to lateral stria; discal punctation fine and dense, slightly less fine than that on pronotum, with puncture intervals 2 to 5 times larger than puncture diameters. Pygidium with microsculpture consisting of very short striae. Prohypomera smooth, impunctate and lacking microsculpture. Mesepimeral ridge longer than interval to mesocoxa. Metasternum without microsculpture; medio-apical portion flattened, with fine and dense punctation, lateral and medio-anterior portions of metasternum with punctation very fine and scattered. Metepisternum narrowed anteriorly, flat, lying on slightly lower plane than metasternum, suture slightly sinuate. Mesocoxal line arcuate, finely punctate; mesocoxal area 0.04 mm long. Exposed abdominal sternites with microsculpture consisting of short striae, partly forming meshes. Abdominal punctation very fine and sparse on most surface, relatively coarse on median portion of first sternite. Metacoxal line arcuate, rather coarsely punctate; metacoxal area 0.09-0.10 mm long.

Male sexual characters. Segments 1 to 3 of protarsi widened. Aedeagus (Figs 5, 6) 0.32-0.33 mm long, symmetrical. Median lobe with basal bulb fairly small, moderately sclerotized, ventral tubercles large, prominent. Distal process of median

FIGS 1 to 6

Aedeagi in *Scaphisoma*, dorsal and lateral views; 1 and 2, *S. invertum* sp. n.; 3 and 4, *S. emecum* sp. n.; 5 and 6, *S. serosum* sp. n. Scale bars = 0.1 mm.



lobe narrow near bulb, strongly arcuate and inflexed in lateral view, slightly widened toward tip in dorsal view, with tip acute. Parameres almost evenly wide, slightly sinuate in dorsal view, slightly arcuate in lateral view. Internal sac simple, tubular, with apical spinose structures.

Comments. This species resembles *S. flavofasciatum* Löbl in the conspicuous colour pattern but it may be easily distinguished by the relative length of the antennal segments 5 and 6, the length of the metacoxal area, and the abdominal microsculpture. *Scaphisoma flavofasciatum* has the segment 6 significantly longer than the segment 5, the first exposed abdominal sternite lacks microsculpture, and the metacoxal areas are much shorter than in *S. serosum*. The male characters are unknown from *S. flavofasciatum*. Although the aedeagus of *S. serosum* is similar to that of *S. curtipenne* (Pic), these species are probably not closely related. These two species differ drastically in exoskeletal characters (for *S. curtipenne* see Löbl, 1973), and their aedeagi lack obvious derived characters.

Scaphisoma signum sp. n.

Figs 7, 8

Holotype ♂: China, Central Sichuan, Wolong Nat. Res., 1500m, 22.v.1994, S. A. Kurbatov (MHNG).

Description. Length 1.5 mm. Body reddish-brown, subapical portion of elytra darkened, apices of elytra, abdominal apex, femora and tibiae lighter than thorax, antennae and tarsi yellowish. Length ratio of antennal segments 3 to 11 as follows: 5: 11: 15: 15: 20: 15: 20: 20: 25; segment 4, 5 and 11 each about 4 times as long as wide; segments 6, 7 and 8 each about 3 times as long as wide. Pronotum with lateral margins evenly arcuate; lateral keels not visible; punctation sparse and very fine, consisting of minute but well delimited punctures. Tip of scutellum exposed. Elytra each with lateral margin rounded in basal third, oblique in apical two thirds; lateral keel entirely exposed in dorsal view; apical margin arcuate; inner apical angle rounded, not prominent, on same level as outer apical angles; sutural margin not raised; adsutural area flat; sutural stria parallel to suture, curved along pronotal lobe, not extended along basal margin; punctation near base as fine as that on pronotum, on most surface less fine, consisting of fine, not well delimited punctures. Prohypomera and mesepisterna smooth. Mesepimeral ridge as long as interval to mesocoxa. Metasternum flattened medio-apically, with punctation sparse and very fine on most of surface, dense near inner margin of metacoxae. Mesocoxal line arcuate, finely punctate; mesocoxal area 0.03 mm long. Metepisternum flat, moderately narrowed anteriorly, lying in same plane as metasternum, suture straight except near angles. Abdominal tergites and sternites with microsculpture consisting of transverse striae, punctation sparse and very fine. Metacoxal line arcuate, finely punctate; metacoxal area 0.09 mm long.

Male sexual characters. Segment 1 to 3 of protarsi slightly widened. Aedeagus (Figs 7, 8) 0.44 mm long. Median lobe fairly sclerotized, symmetrical. Basal bulb large, with robust, not prominent ventral tubercle. Distal process of median lobe gradually narrowed, with tip acute, strongly inflexed and curved, and dorsal valve single, sclerotized. Parameres with base very wide, narrowed toward curved apical portion, bearing large membranous lobe. Internal sac complex, with two median rows

of large denticles and group of large, subapical denticles; membranes very finely denticulate apically, and finely spinose and incurved proximally.

Comments. This new species is very similar to *S. taiwanum* Löbl in both exoskeletal and genital characters. It may be distinguished from the latter species by its aedeagus with parameres bearing large lobes and by the internal sac with rows of large denticles.

Scaphisoma aciculare sp. n.

Figs 9 to 11

Holotype ♂: China, Yunnan, Gaoligong Mts, 2200-2500m, 24°57'N, 98°45'E, 8-16.v.1995, S. Bečvář (MHNG).

Description. Length 2.10 mm. Body uniformly very dark reddish-brown, apex of abdomen, antennae and tarsi lighter. Length ratio of antennal segments 3 to 11 as follows: 7: 15: 19: 19: 25: 20: 23: 24: 28; segments 4, 5 and 8 each about 4 times as long as wide; segments 6, 7 and 11 each 3 times as long as wide. Pronotum with evenly arcuate lateral margins; lateral keels concealed; discal punctation extremely fine, fairly dense. Tip of scutellum exposed. Elytra each with lateral margin slightly rounded; lateral keel visible near base only; apical margin truncate, inner apical angle rounded, not prominent, at same level as outer apical angles; adsutural area flat anteriorly, slightly raised in apical two thirds; sutural stria curved near base and extended to outer third of basal width, forming basal stria not joined to lateral stria; discal punctation fairly dense and fine, consisting of punctures not well delimited, mostly much smaller than puncture intervals; punctation near base finer than that on discal center, similar to that on pronotum. Prohypomera smooth. Mesepimeral ridge about as long as interval to mesocoxa. Metasternum without microsculpture, very finely and sparsely punctate, convex in middle, with two medio-apical impressions. Mesocoxal line arcuate, distinctly punctate; mesocoxal areas 0.06 mm long. Metepisterna flat, moderately narrowed anteriorly, lying on lower plane than metasternum; suture straight. Abdominal punctation sparse and very fine. First exposed sternite without microsculpture, following sternites with punctulate microsculpture. Metacoxal line parallel to coxa, finely punctate; metacoxal area 0.03 mm long.

Male sexual characters. Segments 1 to 3 of protibiae and segments 1 and 2 of mesotibiae moderately widened. Aedeagus (Figs 9 to 11) 0.69 mm long. Median lobe symmetrical. Basal bulb rather strongly sclerotized, relatively small. Ventral tubercles large, prominent. Distal process of median lobe about as long as basal bulb, gradually narrowed apically, with subapical denticle on dorsal side; tip acute in lateral view. Parameres with subbasal notch, expanded base, abruptly curved subapically in dorsal view. Inner side of parameres weakly sclerotized in apical half, sinuate in lateral view. Internal sac with long rod overlapped by rows of spines.

Comments. This species possesses an aedeagus similar to that of *S. simplicipenis* Löbl, and is likely closely related to that species. However it may be easily distinguished from *S. simplicipenis* by the much large basal bulb, the less prominent ventral tubercles, and the presence of conspicuous, sclerotized spines in the internal sac. In external characters *S. aciculare* differs notably from *S. simplicipenis* by the sutural striae of elytra extended to form basal striae.

Scaphisoma latro sp. n.

Figs 12, 13

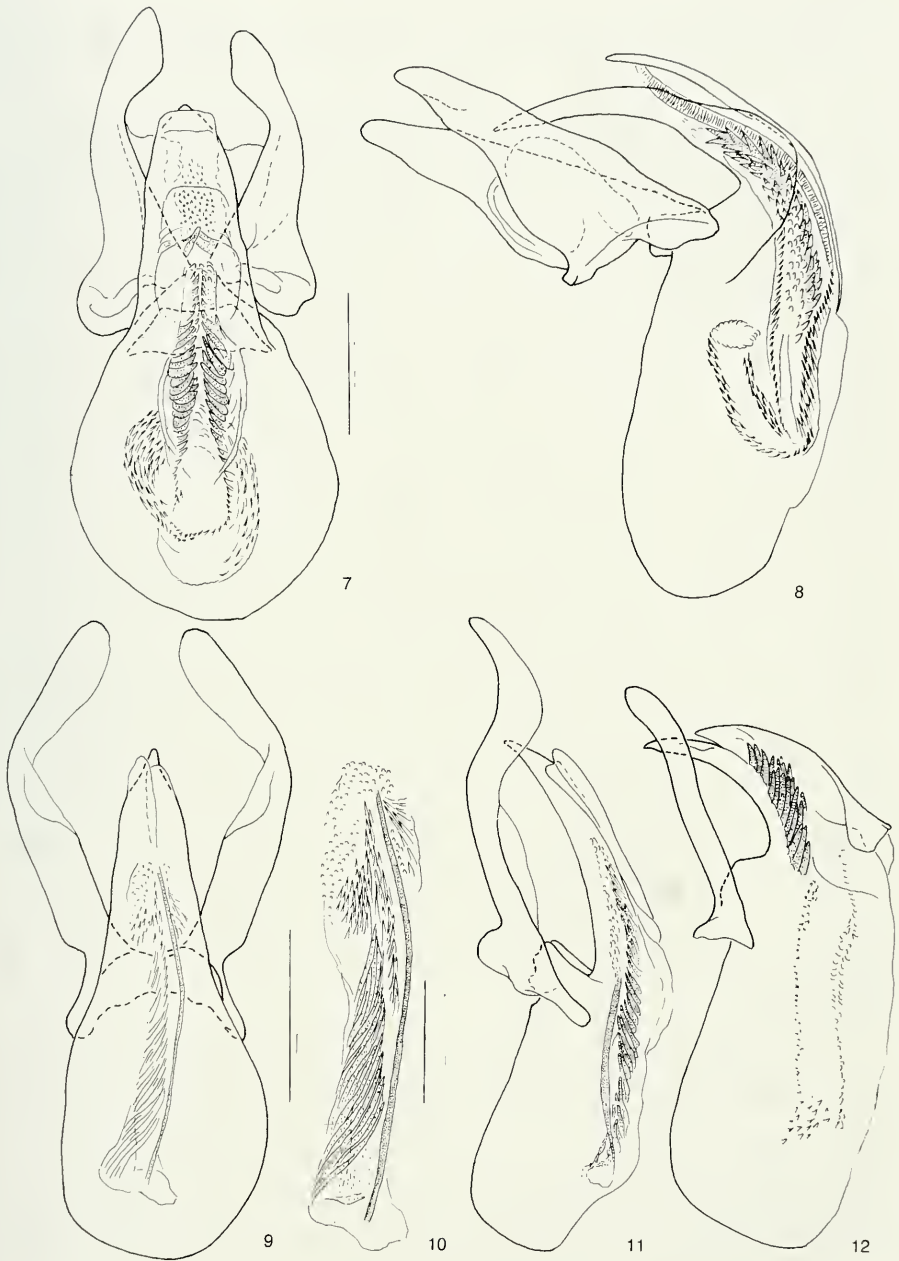
Holotype ♂: China, Western Hubei, Shennonglia Nat. Res., 2000-2200m, 3-8.vi.1995, S. A. Kurbatov (MHNG).

Paratypes: same data as holotype, 1♂, 2♀ (MHNG).

Description. Length 1.70-1.75 mm. Body dark reddish-brown to black, apical third of elytra yellowish, apex of abdomen ochreous. Femora and tibiae reddish-brown, lighter than thorax, antennae and tarsi yellowish. Length ratio of antennal segments 3 to 11 as follows: 6: 10: 16: 16: 22: 16: 20: 21: 25 (holotype); segment 4 about 3 times as long as wide; segment 5 about 4 times as long as wide; segment 6 about 3.5 times as long as wide; segment 7 about 3 times as long as wide; segment 8 about 2.5 times as long as wide; segment 11 almost 3.5 times as long as wide. Pronotum evenly arcuate laterally; lateral keels concealed; discal punctation very fine and fairly sparse, diameters of punctures much smaller than puncture intervals. Tip of scutellum exposed. Elytra each with lateral margin arcuate in basal third, straight in posterior two thirds; apical margin slightly rounded; inner apical angle rounded, not prominent, at same level as outer apical angle; sutural margin not raised; adsutural area flat in anterior half, slightly raised in posterior half; sutural striae parallel in anterior half, converging toward apex, curved along base to form basal striae reaching outer third of basal width; discal punctation fine, fairly dense, less fine than that of pronotum but near elytral base about as fine as on pronotum. Prohypomera smooth. Mesepimeral ridge twice as long as interval to mesocoxa. Metasternum without microsculpture, with very fine and sparse punctation, flattened in middle, and with very shallow, medio-apical impressions; midline impunctate. Mesocoxal line arcuate, very finely punctate; mesocoxal area 0.06 mm long. Metepisterna flat, gradually narrowed anteriorly, lying at same plane as metasternum, with suture almost straight. Exposed abdominal segments with microsculpture consisting of transverse striae; abdominal punctation very fine and sparse, on mediobasal portion of first sternite more distinct than on remainder of sternal surface; microsculpture absent from latero-basal portion of first sternite. Metacoxal line strongly arcuate and very finely punctate; metacoxal area 0.10 mm long.

Sexual characters of male. Segments 1 to 3 of protarsi widened. Aedeagus (Figs 12, 13) 0.59-0.61mm long. Median lobe symmetrical. Basal bulb large, moderately sclerotized. Ventral tubercles large, somewhat prominent. Distal process of median lobe short, curved and inflexed, with tip wide in dorsal view, acute in lateral view. Parameres almost evenly narrow, slightly curved in dorsal view, slightly sinuate in lateral view. Internal sac with long membranous vesicle covered by squamose structures and with rows of strongly sclerotized, apical denticles.

Comments. This species possesses the aedeagus similar to that of *S. hiekei* Löbl although the latter species has the apical portion of the median lobe more strongly inflexed, and the parameres evenly narrow. *Scaphisoma hiekei* may be easily distinguished from *S. latro* by the elytra lacking basal striae and the antennal segments 3 and 4 equally short.



FIGS 7 to 12

Aedeagi in *Scaphisoma*, dorsal and lateral views: 7 and 8, *S. signum* sp. n., scale bar = 0.1 mm; 9 to 11, *S. aciculare* sp. n.: 9 and 11, aedeagus, scale bar = 0.2 mm; 10, internal sac, scale bar = 0.1 mm; 12, *S. latro* sp. n., lateral view.

Scaphisoma subtile sp. n.

Figs 14, 15

Holotype ♂: China, South Sichuan, south Xichang, Lunji, 2300-2500m, 16-24.vii.1996, S. A. Kurbatov (MHNG).

Description. Length 2.15 mm. Body blackish-brown, elytra lighter toward apex. Abdomen dark reddish-brown, with apex lighter. Femora blackish, tibiae reddish-brown, antennae and tarsi lighter than tibiae. Length ratio of antennal segments 3 to 11 as follows: 7: 12: 17: 20: 23: 19: 23: 22: 30; segments 4, 8 and 11 each about 3 times as long as wide; segment 5 about 3.5 times as long as wide; segment 6 about 4 times as long as wide; segment 7 about 2.5 times as long as wide. Pronotum with lateral margins evenly arcuate; lateral keels entirely visible; punctuation dense and fairly fine, most puncture intervals distinctly larger than puncture diameters. Exposed point of scutellum minute. Elytra each with lateral margin strongly arcuate in basal half, slightly rounded in apical half; lateral keel exposed posterior middle area; apical margin truncate; inner apical angle rounded, not prominent, lying slightly posterior level of outer apical angles; sutural margin not raised; adsutural area flat in basal third, slightly raised in posterior basal third; sutural stria parallel to suture, curved near base and extended along basal margin to outer third of basal width, not joined to lateral stria; discal punctuation fine and fairly sparse, punctures not well delimited, mostly as large as, or smaller than, pronotal punctures, much smaller than puncture intervals. Pygidium with distinct punctulate microsculpture; punctuation fine near base, becoming very fine toward apex. Propygidium with punctuation fairly coarse and dense. Prohypomera smooth, lacking microsculpture, with few extremely fine punctures. Mesepimeral ridge as long as interval to mesocoxa. Metasternum without microsculpture; medio-apical area flattened and with dense and fairly coarse punctuation; medio-anterior and lateral areas of metasternum with very fine and sparse punctuation. Mesocoxal line almost parallel to mesocoxa, finely punctate; mesocoxal area 0.04 mm long. Metepisternum flat, narrowed anteriorly, with almost straight suture, almost in same plane as metasternum. First exposed abdominal sternite lacking microsculpture; with punctuation fairly coarse and dense on mediobasal area, very fine and sparse on medio-apical and lateral areas. Metacoxal line arcuate, finely punctate; metacoxal area 0.08 mm long. Following sternites with punctuation very fine and sparse, and with distinct punctulate microsculpture.

Male sexual characters. Segments 1 to 3 of protarsi slightly widened. Aedeagus (Figs 14, 15) 0.70 mm long. Median lobe symmetrical, with relatively small and weakly sclerotized basal bulb. Ventral tubercles large, prominent. Distal process of median lobe slender, longer than basal bulb, moderately inflexed, narrowed in apical portion; tip obtuse in dorsal view, slightly curved and acute in lateral view. Parameres almost evenly wide in apical two thirds, widened toward base, with margins sinuate in dorsal view, arcuate in lateral view. Internal sac with long, strongly sclerotized, almost straight rod; membranes lacking squamose or spinose structures.

Comments. This species exhibits an aedeagus structurally similar to that of *S. punctaticolle* Löbl, although the ventral tubercles of the median lobe are much larger and prominent. *Scaphisoma punctaticolle* may be distinguished easily from *S. subtile* by the relatively coarsely punctate metasternum and the conspicuously microsculptured first abdominal sternite.

Scaphisoma wolong sp. n.

Figs 16, 17

Holotype ♂: China, Sichuan, Wolong Nat. Res. 1700m, 19.v.1994. S. A. Kurbatov (MHNG).

Paratype ♀: same data as holotype (MHNG).

Description. Length 1.65 mm. Body uniformly very dark reddish-brown. Femora and tibiae slightly lighter than body. Antennae and tarsi ochreous or yellowish. Length ratio of antennal segments 3 to 11 as follows: 3: 6: 8: 11: 14: 10: 15: 14: 20 (holotype); segment 4 narrow, less than twice as long as wide, segment 5 wider than segment 4, almost 3 times as long as wide; segment 6 much wider than segment 5, about twice as long as wide; segments 7 and 11 each about 2.5 times as long as wide; segment 8 about twice as long as wide. Pronotum evenly arcuate laterally; lateral keels completely concealed; punctation very fine and dense, punctures relatively well delimited, much smaller than puncture intervals. Tip of scutellum exposed. Elytra each with lateral margin strongly arcuate anteriorly, oblique in apical portion; lateral keel not visible; apical margin distinctly rounded; inner apical angle rounded, not prominent, lying posterior to level of outer angle; sutural margin flat anteriorly, slightly raised in posterior half; adsutural area mostly flat, not or hardly oblique in posterior half; sutural striae parallel, curved along base and extended to humeral areas, forming basal striae not joined to lateral striae; discal punctation sparse and very fine on basal half, similar to that on pronotum, slightly less fine on apical half. Pygidium with punctation extremely fine and with punctulate microsculpture. Prohypomera smooth, impunctate. Mesepimeral ridge as long as interval to mesocoxa. Metasternum convex in middle, without medio-apical impressions and without microsculpture, with punctation very fine and sparse laterally and on center, dense and fairly coarse on medio-apical area. Mesocoxal line arcuate, rather coarsely punctate, mesocoxal area 0.06 mm long. Metepisternum flat, in same plane as metasternum, narrowed anteriorly, with straight suture. First abdominal sternite with punctation sparse and very fine laterally, dense and rather coarse medially. Metacoxal line arcuate, rather coarsely punctate; metacoxal area 0.06 mm long. Apical sternites with punctulate microsculpture.

Male sexual characters. Protarsi not widened. Aedeagus (Figs 16, 17) 0.35 mm long. Median lobe fairly sclerotized, symmetrical. Basal bulb relatively small, with ventral tubercles distinct, not prominent. Distal process curved and moderately inflexed ventrally, gradually narrowed in dorsal view, with blunt tip. Dorsal valves membranous. Parameres slightly bent apically in dorsal view, slightly arcuate in lateral view. Internal sac bearing simple long flagellum; membranose very finely spinose. Flagellar base widened and bifid.

Comments. This species is a member of the *S. subalpinum* group. It is similar to *S. inquietum* Löbl, from which it differs in having the elytral and pronotal punctation more dense, the antennal segment 4 longer, and the internal sac bearing a simple rod, lacking denticulate and or quamoses structures on membranes. The latter feature separates *S. wolong* from all other members of the *S. subalpinum* group.

Scaphisoma styloides sp. n.

Figs 18 to 20

Holotype ♂: China, West Hubei, Shennongjia Nat. Res., 2000-2200m, 3-8.vi.1995. S. A. Kurbatov (MHNG).

Paratype ♀: sama data as holotype (MHNG).

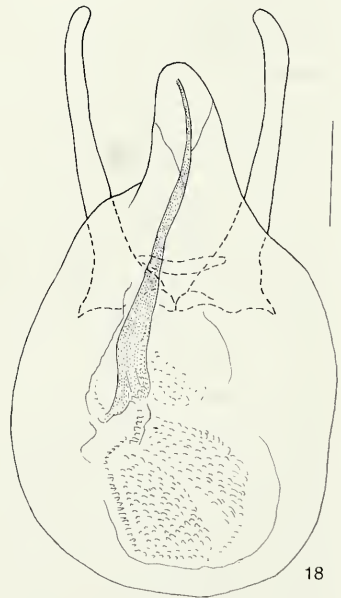
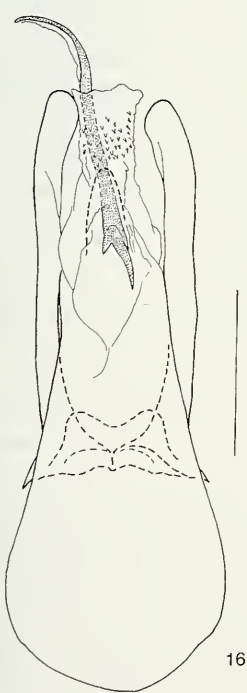
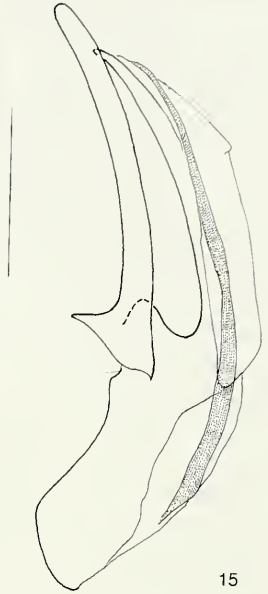
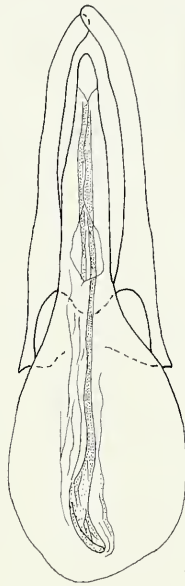
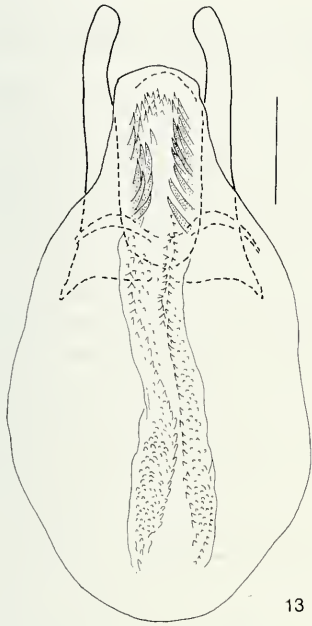
Description. Length 1.95-2.30 mm. Body uniformly dark reddish-brown, apex of abdomen, tarsi and antennae lighter. Length ratio of antennal segments 3 to 11 as follows: 6: 10: 12: 15: 22: 16: 19: 18: 20 (holotype); segment 4 narrow, about 3 times as long as wide; segment 5 about 2.5 times as long as wide; segment 6 slightly more than 2 times as long as wide; segment 7 almost 3 times as long as wide; segment 8 and 11 each about 2 times as long as wide. Pronotum evenly arcuate laterally; lateral keels concealed; punctation very fine and sparse, puncture diameters much smaller than intervals. Tip of scutellum exposed. Elytra each with lateral margin arcuate in basal half, oblique in apical half; lateral keel not visible in dorsal view; apical margin truncate; inner apical angle rounded, not prominent, on same level as outer apical angle; sutural margin not raised; adsutural area flat; sutural stria parallel to suture, curved at base and extended to form basal stria joined to lateral stria; discal punctation fine, fairly dense, intervals between punctures mostly 2 to 4 times as large as puncture diameters. Pygidium very finely punctate, with punctulate microsculpture. Prohypomera smooth. Mesepisterna, lateral portions of metasternum, metepisterna and lateral portions of first exposed sternite with very fine and sparse punctation. Mesepimeral ridge about 1.5 times as long as interval to mesocoxa. Metasternum without microsculpture, convex in middle, with two medio-apical impressions densely punctate. Mesocoxal line arcuate, finely punctate; mesocoxal area 0.06 mm long. Metepisterna flat, strongly narrowed anteriorly, in same plane as metasternum, with straight suture. Lateral portions of first exposed sternite and entire following sternites covered by punctulate microsculpture (conspicuous in holotype, hardly visible in paratype). Metacoxal line arcuate, finely punctate; metacoxal area 0.07 mm long.

Sexual characters of male. Segments 1 to 3 of protarsi distinctly widened. Aedeagus (Figs 18 to 20) 0.55 mm long. Median lobe symmetrical, with basal bulb large, moderately sclerotized. Ventral tubercles small, slightly prominent. Distal process of median lobe much shorter than basal bulb, inflexed ventrally, gradually narrowed apically. Internal sac with flagellum simple, slender, gradually narrowed apically, slightly curved, and with large basal vesicular area covered by squamose structures. Parameres almost evenly wide in apical two third, straight in middle, curved in apical portion.

Comments. This species is a membre of the *S. subalpinum* group. It is likely closely related to *S. uniforme* Löbl with which it shares most aedeagal characters. It differs from the latter species by the shape of the flagellum of the internal sac which is widened and hook-like in *S. uniforme*, the curved apices of parameres, and by the elytra with entire basal stria.

FIGS 13 to 18

Aedeagi in *Scaphisoma*, dorsal and lateral views; 13, *S. latro* sp. n., dorsal view, scale bar = 0.1 mm; 14 and 15, *S. subtile* sp. n., scale bar = 0.2 mm; 16 and 17, *S. wolong* sp. n., scale bar = 0.1 mm; 18, *S. styloides* sp. n., scale bar = 0.1 mm.



Scaphisoma apertum sp. n.

Figs 21 to 23

Holotype ♂: China, Yunnan, Jizu Shan, 2500-2700m, 25°58' N 100°21' E, 6-10.vii.1994, V. Kubán (MHNG).

Paratypes: Yunnan, Gaoligong Mts, 2200-2500m, 25°57' N 98°45' E, 8-16.v.1995, O. Semela, 1♂, 2♀ (NHMB, MHNG).

Description. Length 2.1-2.2 mm. Body uniformly black, femora and tibiae dark reddish-brown, tarsi and antennae ochreous. Length ratio of antennal segments 3 to 11 as follows: 6: 14: 15: 21: 27: 23: 28: 26: 32 (holotype); segment 4 narrow, 3.5 times as long as wide; segments 5 to 8 each about 3 times as long as wide; segment 11 about 4 times as long as wide. Pronotum with lateral margins rounded in anterior half, oblique in basal half; lateral keels not visible; punctuation dense and coarse, punctures not well delimited, mostly smaller than puncture intervals. Tip of scutellum exposed. Elytra each with lateral margin distinctly arcuate in basal third, slightly arcuate in apical two thirds; lateral keel visible near base and in apical third; apical margin arcuate; inner apical angle rounded, not prominent, on same level as outer apical angle; sutural margin not raised; adsutural area flat in basal third, slightly raised posterior basal third; sutural striae parallel, curved along base to form basal striae extended to outer third of basal width; discal punctuation finer and less dense than pronotal punctuation, puncture intervals mostly 2 to 4 times as large as puncture diameters. Pygidium and propygidium very finely punctate and with almost obsolete, punctulate microsculpture. Prohypomera smooth. Mesepimeral ridge slightly shorter than interval to mesocoxa. Metasternum without microsculpture, very finely and sparsely punctate, but with dense punctuation on flattened medio-apical portion. Mesocoxal line subparallel, with coarse and very dense punctures; mesocoxal area 0.05 mm long. Mesepisterna flat, strongly narrowed anteriorly, lying below plan of metasternum; suture slightly sinuate. Abdominal sternites extremely finely punctate. First exposed sternite without microsculpture, following sternites with almost obsolete punctulate microsculpture. Metacoxal line arcuate, with dense and coarse punctures; metacoxal area 0.06 mm long.

Sexual characters of male. Segments 1 - 3 of protarsi widened. Aedeagus (Figs 21 to 23) 0.72-0.73 mm long. Median lobe symmetrical, with basal bulb large, weakly sclerotized. Ventral tubercles well developed, slightly prominent. Distal process of median lobe shorter than basal bulb, inflexed, tapering. Dorsal valves membranous. Inner sac with flagellum long, strongly sclerotized, almost evenly thin, hook-like basally. Membranes with denticular and squamose structures, denticles partly arranged in rows.

Comments. This is an additional member of the *S. subalpinum* group. It shares with *S. castaneipenne* Reitter, *S. galloisi* Achard and *S. adnexum* Löbl an aedeagus with long, thin flagellum, the internal sac with rows of denticular structures, and the parameres almost evenly narrow. *Scaphisoma apertum* may be distinguished from these species by the hook-like basis of the flagellum. In addition, it may be easily separated from *S. castaneipenne* and *S. galloisi* by the finer elytral punctuation and finer abdominal microsculpture, and from *S. adnexum* by the larger size of the body and the more coarse pronotal punctuation.

The two examined males have the internal sac extruded. The flagellum is as illustrated, strongly bent in the holotype, stretched apically in the paratype.

Scaphisoma pseudantennatum sp. n.

Figs 24 to 26

Holotype ♂: China, Central Sichuan, Wolong Nat. Res., 1500m, 21.v.1994, S. A. Kurbatov (MHNG).

Paratypes: same data as holotype, 4♂, 4♀ (MHNG); Sichuan, Liziping env. near Shimian, 200km south west Xa'an, 27.iv.-3.vii.1991, Z. Kejval, 1♀ (NHMB).

Description. Length 2.6-2.7 mm. Body black, apex of abdomen very dark brown, tibiae reddish-brown, tarsi and antennae lighter than tibiae, ochreous or light brown. Length ratio of antennal segments 3 to 11 as follows: 8: 12: 15: 32: 35: 28: 30: 31: 38 (holotype); segments 4 and 5 each 3 times as long as wide; segment 6 conspicuously subparallel, wider than segment 5, almost 5 times as long as wide; segment 7 about 3.5 times as long as wide; segment 8 and 11 each about 4 times as long as wide (holotype). Thorax lacking microsculpture. Pronotum with almost evenly arcuate lateral margins, lateral keels not or barely visible; discal punctation distinct, punctures well delimited, puncture diameters smaller than puncture intervals. Tip of scutellum exposed. Elytra each with lateral margin arcuate anteriorly, oblique in middle portion; lateral keel partly visible in dorsal view; apical margin straight; inner apical angle rounded, not prominent, about on same level as outer apical angle; sutural margin not raised; adsutural area flat; sutural stria shallow, parallel to sutural margin, curved anteriorly and extended laterally along basal margin to humeral area, not joined with lateral stria; discal punctation even, similar to that on pronotum, as coarse as, or slightly coarser than, pronotal punctation. Mesepimeral ridge about as long as interval to mesocoxa. Metasternum flattened medio-apically; metasternal punctation very fine and very sparse on lateral and mediobasal areas, fairly dense and coarse on medio-apical area. Mesocoxal line arcuate, coarsely punctate; mesocoxal area 0.07-0.08 mm long. Metepisterna flat, strongly narrowed anteriorly, on same plane as metasternum; suture slightly sinuate. Exposed tergites with microsculpture consisting of punctures. Punctation on propygidium finer, that on pygidium much finer than elytral punctation. First exposed abdominal sternite lacking microsculpture; with punctation fairly dense and distinct on mediobasal area, very fine and very sparse on medio-apical and lateral surfaces. Following sternites with distinct punctulate microsculpture, normal punctation obsolete. Metacoxal line arcuate, coarsely punctate; metacoxal area 0.09-0.10 long.

Male sexual characters. Segments 1 to 3 of protarsi distinctly widened. Aedeagus (Figs 24 to 26) 1.15-1.20 mm long. Median lobe and parameres symmetrical, fairly strongly sclerotized. Basal bulb large. Ventral tubercles not prominent. Distal process of median lobe gradually inflexed and tapering; dorsal valves overlapping, weakly sclerotized. Internal sac with long flagellum curved basally and joined to short, hook-like sclerite. Membranes bearing complex squamose structures. Parameres slightly narrowed apically and slightly curved in lateral view, sinuate or distinctly curved and narrowed apically in dorsal view.

Comments. This new species is a member of the *S. subalpinum* group. It is similar to *S. antennatum* (Achard) with which it shares the antennal segment 6 long compared with segments 4 and 5. It may be distinguished readily from *S. antennatum* by the shorter antenal segment 11 and by the aedeagal characters. The aedeagus is smaller in *S. antennatum*, with the distal process of the median lobe shorter and not inflexed, the parameres slightly sinuate and the shape of the flagellum distinctive.

Scaphisoma oppositum sp. n.

Figs 27, 28

Holotype ♂: China, Yunnan prov., Gaoligongshan, 90 km west Baoshan, 26-26.v.1995, S. Bečvář (MHNG).

Paratype ♀: same data as holotype (MHNG).

Description. Length 2.55 mm. Very similar to *S. pseudantennatum* in most diagnostic characters. Antennae slightly distinctive, length ratio of antennal segments 3 to 11 as follows: 7: 10: 15: 31: 34: 28: 30: 30: 40 (holotype); segment 4 about 2.5 times as long as wide; segment 5 about 3 times as long as wide; segment 6 about 5 times as long as wide; segments 7 and 11 each 4 times as long as wide. Elytra with discal punctation finer and more sparse than that on pronotum or in *S. pseudantennatum*. Microsculpture on propygidium and on lateral portions of first exposed abdominal sternite absent or hardly visible. Mesocoxal area 0.09 mm long. Metacoxal area 0.10 mm long.

Male sexual characters. Segments 1 to 3 of protarsi widened. Aedeagus (Figs 27, 28) 1.10 mm long. Median lobe and parameres symmetrical, strongly sclerotized. Median lobe gradually narrowed apically, with basal bulb relatively small, shorter than distal process. Tip of median lobe acute and strongly curved. Ventral tubercles not prominent. Parameres arcuate, narrowed from base to middle third, almost evenly wide in posterior two thirds. Internal sac with flagellum sinuate and bifid proximally, and with additional, straight, subbasal rod. Basal portion of flagellum fairly thick, left flagellar rod narrow. Membranes of internal sac with squamose structures in middle.

Comments. This species is an other member of the *S. subalpinum* group and is similar to *S. antennatum* and *S. pseudantennatum*. It differs from them notably by the more finely punctate elytra, the narrower aedeagus, and the very distinctive, bifid flagellum bearing an additional rod.

Scaphisoma acclivum sp. n.

Figs 29, 30

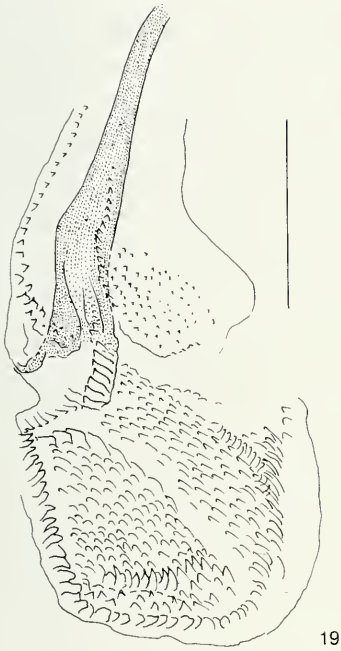
Holotype ♂: China, South Sichuan, Ya'an Prefecture, Shimian Co., Xiaoxiang Ling, lateral valley above Nanya Cun near Caluo, 11 km south Shimian, ca 1250m. 7.vii.1999, litter, bark, fungi, M. Schülke (ZMB).

Paratypes: same data as holotype, 2 ♀ (MHNG, PCMS).

Description. Length 2.6-2.9 mm. In external characters very similar to *S. antennatum*, *S. pseudantennatum* and *S. oppositum*. It differs by following characters.

FIGS 19 to 24

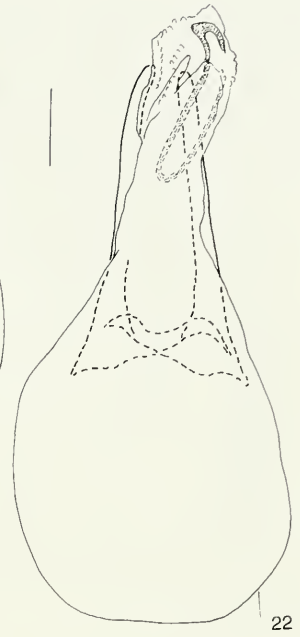
Aedeagi in *Scaphisoma*, dorsal and lateral view; 19 and 20, *S. styloides* sp. n.; 21 to 23, *S. apertum* sp. n., apical portion of median lobe with partly extruded internal sac; 24, *S. pseudantennatum* sp. n., internal sac. Scale bars = 0.1 mm.



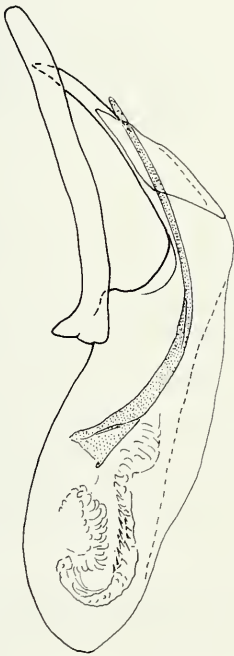
19



21



22



20



24



23

Length ratio of antennal segments 3 to 11 as follows: 6: 10: 15: 28: 30: 24: 29: 25: 34 (holotype); segment 4 about 2.5 times as long as wide; segments 5 about 3 times as long as wide; segment 6 about 5 times as long as wide, parallel-sided; segment 7 almost 4 times as long as wide; segments 8 and 11 each 4 times as long as wide. Pronotal punctation dense and coarse, punctures well delimited, slightly smaller or as large as intervals. Elytral punctation less dense, near base finer, on center of disc slightly coarser than pronotal punctation. Metepisternum lying below plane of metasternum. Mesocoxal area 0.09 mm long, metacoxal area 0.10 mm long. Microsculpture on lateral portions of first exposed abdominal sternite distinct.

Male sexual characters. Segments 1 to 3 of the protarsi and mesotarsi strongly widened. Aedeagus (Figs 29, 30) 1.55 mm. Median lobe strongly sclerotized, symmetrical, except for asymmetrical apex. Basal bulb fairly large, about as long as distal process, with ventral tubercles distinct, not prominent. Distal process moderately inflexed, rather oblique, asymmetrically narrowed toward apex; tip blunt in dorsal view; apex expanded ventrally and hook-like in lateral view. Parameres with large base, narrowed toward middle, with apical half almost equally wide and arcuate in dorsal view; sinuate in lateral view. Internal sac with flagellum robust, widened and curved in basal portion, almost straight in posterior basal portion, becoming gradually thinner toward apex. Proximal end of flagellum bearing small, oblique apophysis. Additional basal rod short, curved. Membranes very densely spinose in middle part of internal sac.

Comments. This species may be readily distinguished from other members of the *S. subalpinum* group by the shape of the distal process of the median lobe, in particular by its hook-like apex. It is also characterized by the shape of the flagellum. The aedeagal characters of *S. acclivum* indicate close relationships to *S. oppositum* which possesses also a flagellum bearing a proximal apophysis and an additional basal rod. However, the shape of the median lobe, parameres and flagellum are distinct these two species.

Scaphisoma linum sp. n.

Figs 31, 32

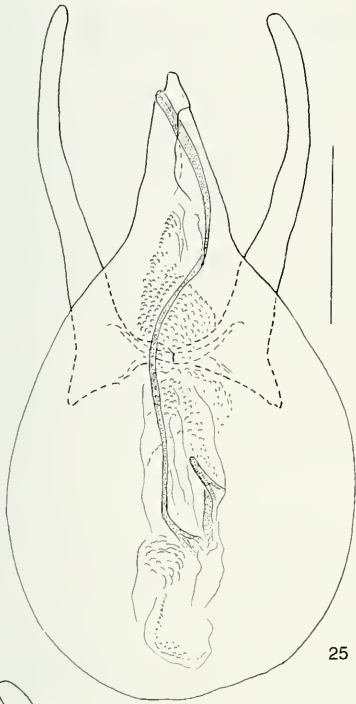
Holotype ♂: China, Sichuan, Liziping env. near Shimien, 200 km southwest Ya'an, 27.vi.-3.vii.1991, Z. Kejval (MHNG).

Paratypes: same data as holotype, 1 ♂, 2 ♀ (MHNG); Sichuan, Daxue Shan, Gongga Shan, 102°04'E 29°36'N, Hailuoguo Glacier Park, river valley about 1 km above Camp I, 2100m, 28-31.v.1997, A. Pütz, 3 ♂, 1 ♀ (MHNG, PCAP); same data but env. Camp II, 2650m, sifted, 30.v.1997, 1 ♂ (MHNG); same data but above Camp III, 3000m, 1 ♂ (MHNG).

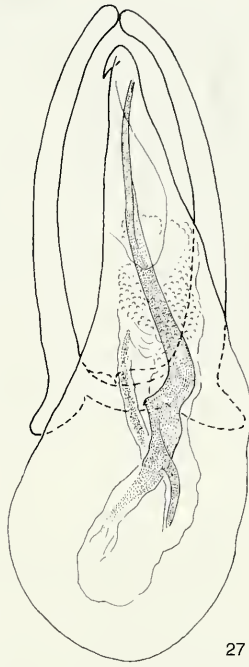
Description. Length 2.15-2.30 mm. In external characters very similar to *S. pseudantennatum*, differs from the latter by: length ratio of antennal segments 3 to 11 as follows: 6: 10: 16: 18: 23: 17: 22: 21: 26 (holotype); antennal segment 4 about 3 times as long as wide; segments 5 and 6 each 4 times as long as wide; segments 7, 8

Figs 25 to 30

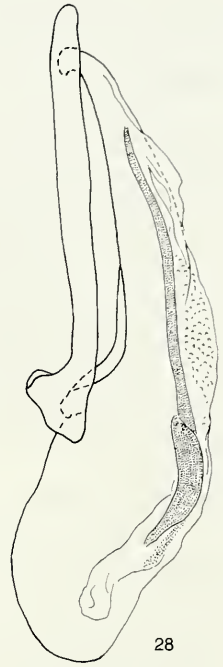
Aedeagi in *Scaphisoma*, dorsal and lateral views; 25 and 26, *S. pseudantennatum* sp. n., scale bar = 0.3 mm; 27 and 28, *S. oppositum* sp. n., scale bar = 0.3 mm; 29 and 30, *S. acclivum* sp. n., scale bar = 0.4 mm.



25



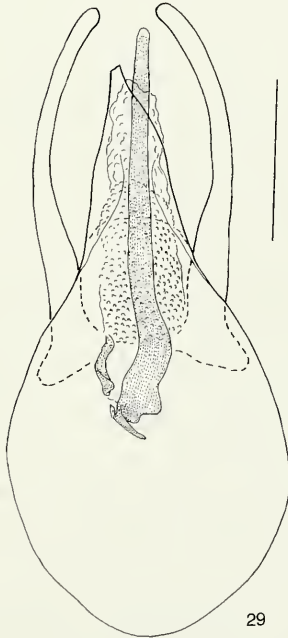
27



28



26



29



30

and 11 each about 3 times as long as wide; pronotum and elytra with almost even, fine punctation; inner apical angle of elytra lying posteriorly to outer apical angles; mesocoxal and metacoxal lines finely punctate; exposed abdominal tergites very finely punctate.

Sexual characters of male. Segments 1 to 3 of protarsi widened. Aedeagus (Figs 31, 32) 0.65 - 0.70 mm long, symmetrical. Basal bulb moderately sclerotized, fairly large. Ventral tubercles large, prominent. Distal process of median lobe about as long as basal bulb, tapering, curved and inflexed ventrally. Parameres slightly curved, with large base, gradually narrowed toward middle, evenly wide in apical half (dorsal and ventral views). Internal sac with flagellum very long, almost evenly narrow, strongly curved basally and joined to long, membranous, basal vesicle. Squamose structures absent from internal sac.

Comments. This species is also member of the *S. subalpinum* group. It may easily be distinguished by the distinctive shape of the flagellum. It has the ventral tubercles of the median lobe prominent, as in *S. adjacens* Löbl and *S. serpens* sp.n.

Scaphisoma serpens sp. n.

Figs 33, 34

Holotype ♂: China, Shaanxi, Qin Lin Shan, 10756'E, 33°45'N, route km 93 south of Zhouzhi, 108 km southwest of Xian, 1650m, mountain forest, sifted, 1-2.ix.1995, M. Schülke (ZMB).

Description. Length 1.9 mm. Body very dark reddish-brown, apex of abdomen lighter. Femora and tibiae ochreous. Tarsi and antennae light brown to yellowish. Length ratio of antennal segments 3 to 11 as follows: 5: 7: 13: 15: 20: 15: 19: 19: 23; segment 4 short, about 1.5 times as long as wide; segments 5 and 6 each about 2.5 times as long as wide; segments 7, 8 and 11 each about twice as long as wide. Pronotum with arcuate lateral margins; lateral keels concealed; punctation fine and dense, punctures not well delimited, very shallow, partly about as large as puncture intervals but mostly much smaller than latter. Tip of scutellum exposed. Elytra each with lateral margin slightly arcuate, lateral keel visible only near base; apical margin truncate; inner apical angle rounded, not prominent, lying posteriorly to outer angle; sutural margin not raised; sutural striae parallel, curved near base and extended laterally to form basal striae, approximate to base laterally and joined with lateral striae; discal punctation irregular, very fine to fairly coarse, dense; punctures usually larger than those on pronotum, smaller or about as large as puncture intervals. Exposed abdominal segments with punctulate microsculpture. Pygidium very finely and sparsely punctate, propygidium more coarsely punctate near base. Prohypomera impunctate, with punctulate microsculpture. Mesepimeral ridge about as long as interval to mesocoxa. Metasternum slightly convex in middle, impressed medio-apically; microsculpture absent, punctation very fine and sparse on most of surface, coarse and dense medio-apically. Mesocoxal line arcuate and finely punctate; mesocoxal area 0.05 mm long. Metepisternum flat, strongly narrowed anteriorly, with almost straight suture, almost on same level as metasternum. Exposed abdominal sternites extremely finely punctate. Metacoxal line arcuate, finely punctate; metacoxal area 0.07 mm long.

Sexual characters of male. Segments 1 to 3 of protarsi widened. Aedeagus (Figs 33, 34) 0.75 mm long. Median lobe symmetrical, basal bulb large, weakly sclerotized. Ventral tubercles large, slightly produced. Distal process of median lobe gradually narrowed toward tip (dorsal view), inflexed obliquely and curved at apex; tip acute in lateral view. Parameres slender, slightly sinuate, curved in apical portion. Internal sac with flagellum wide, flat and almost straight in basal portion, bearing small but distinct, acute denticle on right side. Flagellum narrowed and strongly arcuate posteriorly to level of denticle and evenly narrow in apical half; membranes with fine squamose and, in apical portion, spinose structures.

Comments. This species is an additional member of the *S. subalpinum* group. It has the aedeagus similar to that of *S. adjacens* Löbl to which it is obviously closely related. It may be distinguished from *S. adjacens* by the prohypomera and distinctly microsculptured first exposed abdominal sternite, and by the distinctive shape of the flagellum.

Scaphisoma parasolutum sp. n.

Figs 35, 36

Holotype ♂: China, South Yunnan, Mengyang Nat. Res., ca 500m, 14.ix.1994. S. A. Kurbatov (MHNG).

Description. Length 1.55 mm. Body dark reddish-brown, elytra slightly darker than pronotum. Ventral side of body and appendages ochreous. Length ratio of antennal segments 3 to 11 as follows: 10: 14: 23: 19: 25: 20: 25: 25: 26; segment 3 conspicuously elongate; segment 4 very narrow, about 5 times as long as wide; segment 5 slightly wider than segment 4, about 6 times as long as wide; segments 6, 7, 8 and 11 each about 5 times as long as wide. Pronotum with lateral margins almost oblique in basal half, convex in apical half; lateral keels visible; discal punctation dense and fine, punctures well delimited. Apical portion of scutellum exposed. Elytra each with lateral margin evenly arcuate; lateral keel entirely visible in dorsal view; apical margin rounded; inner apical angle rounded, not prominent, on same level as outer apical angle; sutural margin not raised; adsutural area flat; sutural striae parallel to suture in anterior half, slightly converging from middle to apex, reaching level of scutellum, not curved externally; discal punctation dense and coarse, punctures mostly well delimited and smaller than intervals. Prohypomera smooth. Mesepisterna very finely punctate. Mesepimeral ridge 1.5 times as long as interval to mesocoxa. Metasternum flattened medio-apically; area between coxae with microsculpture consisting of transverse striae, lateral portions of metasternum without microsculpture; metasternal punctation sparse and very fine; antecoxal puncture row dense, fairly coarse. Mesocoxal line arcuate, coarsely punctate; mesocoxal area 0.04 mm long. Metepisterna slightly convex, strongly narrowed anteriorly, in same plane as metasternum, with arcuate suture. Abdominal tergites and sternites with microsculpture consisting of transverse striae; punctation sparse and very fine. Metacoxal line arcuate, coarsely punctate; metacoxal area 0.08 mm long.

Sexual characters of male. Protarsi with segments 1 to 3 moderately widened. Aedeagus (Figs 35, 36) 0.88 mm long. Median lobe symmetrical. Basal bulb large, weakly sclerotized. Ventral tubercles small, somewhat produced. Distal process of

median lobe tapering, slightly inflexed. Parameres asymmetrical, in same plane as median lobe, each bearing oblique, membranous lobe. Internal sac with sclerotized rod gradually narrowed apically and membranes covered by squamose structures.

Comments. This species is certainly closely related with *S. solutum* Löbl which shares the conspicuously elongate 3rd antennal segment and the structurally very similar aedeagus. *Scaphisoma parasolutum* may be distinguished from *S. solutum* by the presence of the metasternal antecoxal puncture row and by the internal sac of the aedeagus bearing a rod gradually narrowed.

Scaphisoma pseudosolutum sp. n.

Figs 37 to 39, 41

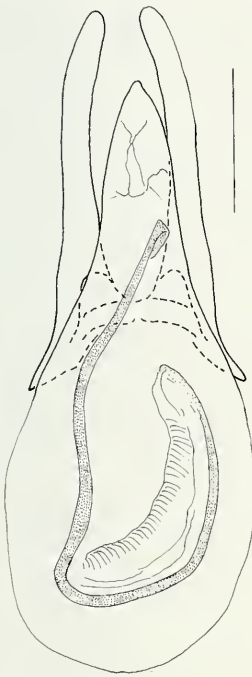
Holotype ♂: China, West Hubei, Shennongjia Nat. Res., 2000-2200m, 5.vi.1995, S. A. Kurbatov (MHNG)

Description. Length 1.9 mm. Body very dark reddish-brown, apex of elytra, apical abdominal segments and legs lighter, antennae yellowish. Length ratio of antennal segments 3 to 11 as follows: 5: 12: 20: 17: 21: 15: 21: 20: 24; segments 4 and 5 about 4 times as long as wide; segments 6, 7, 8 and 11 each about 3 times as long as wide. Pronotum with lateral margins evenly arcuate; lateral keels visible in dorsal view; discal punctation dense and fine, consisting of well delimited punctures. Apex of scutellum exposed. Elytra each with lateral margin almost straight, rounded only near base and apex; apical margin truncate; inner apical angle on same level as outer apical angles, not prominent; adsutural area flat in basal fifth, raised between basal fifth and apex; sutural stria gradually, weakly diverging from apex to base, ending behind pronotal lobe, not curved externally; discal punctation dense and fairly fine, coarser than that on pronotum, consisting of punctures well delimited, smaller than puncture intervals. Prohypomera smooth. Mesepisterna extremely finely punctate, without microsculpture. Mesepimeral ridge almost twice as long as interval to mesocoxa. Metasternum with very fine microsculpture consisting of very short waves and striae. Medio-apical portion of metasternum impressed. Metasternal punctation fine and dense in middle, becoming very sparse laterally; antecoxal puncture row very dense, consisting of small punctures. Mesocoxal line subtriangular, distinctly punctate; mesocoxal area 0.05 mm long. Metepisterna flat, strongly narrowed anteriorly, on same plane as metasternum; suture slightly sinuate. Abdominal tergites and sternites with distinct microsculpture consisting of transverse striae; punctation very fine and sparse. Metacoxal line strongly convex, finely punctate; metacoxal area 0.09 mm long.

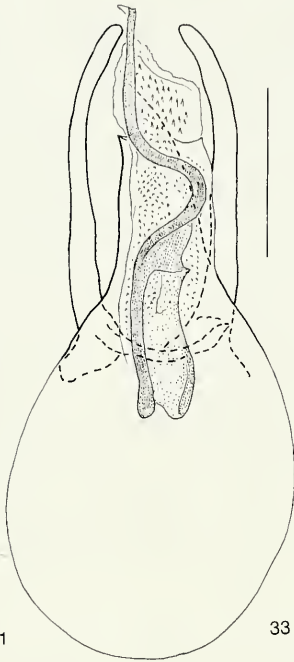
Male sexual characters. Protarsi with segments 1 and 2 strongly widened, segment 3 slightly widened. Mesotarsi with segment 1 strongly widened, segment 2 slightly widened. Aedeagus (Figs 37 to 39, 41) 0.98 mm long. Median lobe symmetrical, with basal bulb weakly sclerotized. Ventral tubercles small, not produced.

FIGS 31 to 36

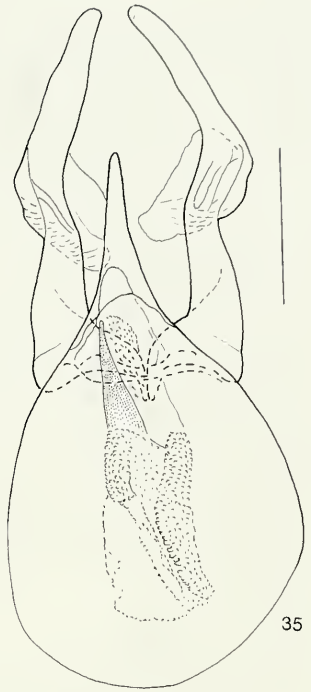
Aedeagi in *Scaphisoma*, dorsal and lateral views; 31 and 32, *S. linum* sp. n., scale bar = 0.3 mm; 33 and 34, *S. serpens* sp. n., scale bar = 0.2 mm; 35 and 36, *S. parasolutum* sp. n., aedeagus in dorsal view, scale bar = 0.2 mm (35); internal sac, scale bar = 0.1 mm (36).



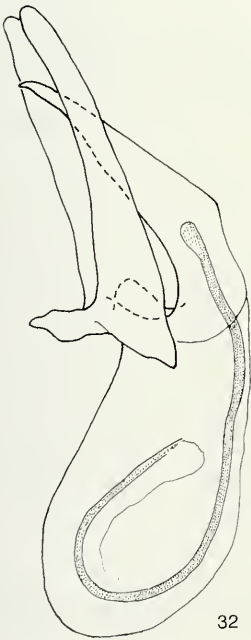
31



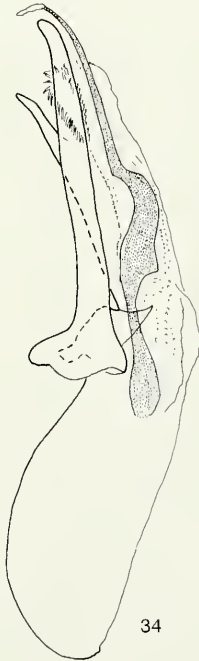
33



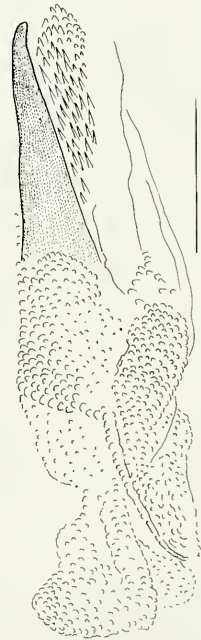
35



32



34



36

Distal process tapering and moderately inflexed, slightly sinuate near tip in lateral view. Dorsal valve simple, lamellar, weakly sclerotized. Parameres wide, hardly inflexed, bent apically, with large, subbasal, membranous lobe. Internal sac narrow in middle, widened apically, bulbous basally; bearing spinose and squamose structures in basal portion, squamose structures in middle and apical portions.

Comments. This species appears to be allied to *S. gentile* Löbl, *S. flexuosum* Löbl, *S. nigrum* Löbl, *S. solutum* Löbl, and *S. parasolutum* sp. n. which share aedeagal characters, in particular the shape of the median lobe and parameres. *Scaphisoma pseudosolutum* differs notably from *S. gentile* by the narrow apical portion of the parameres and much smaller squamose structures of the internal sac, from *S. flexuosum* by the wide middle portion of the internal sac, from *S. nigrum* and *S. solutum* by the parameral lobe situated subbasally, and from the latter species also by the internal sac lacking a sclerotized rod. These species may be easily distinguished from *S. pseudosolutum* by their smaller size (the body length in *S. flexuosum* is 1.35 mm, in *S. nigrum* and *S. parasolutum* 1.50 - 1.55 mm, and in *S. solutum* 1.3 mm). They may be readily separated also by the length ratio of the antennal segments, especially by the short segment 4 in *S. nigrum*, the relatively long segment 3 in *S. solutum* and *S. parasolutum*, and the segment 5 much longer than the segment 6 in *S. flexuosum*.

Scaphisoma vexator sp. n.

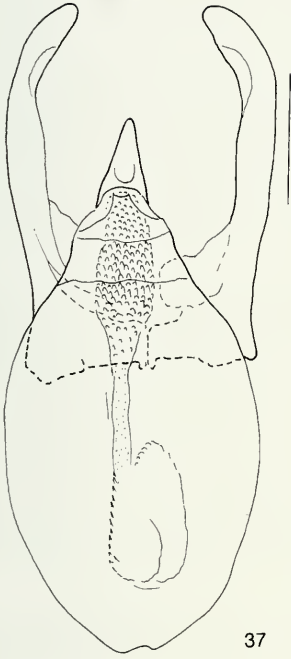
Figs 40, 42

Holotype ♂: China, Yunnan, Gaoligong Mts, 1500-2500m, 25°22'N, 98°49'E, 17-24.v.1995, S. Bečvář (MHNG).

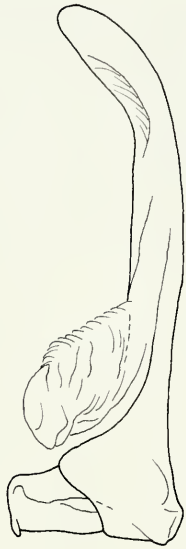
Description. Length 2.0 mm. Most of body, and appendages ochreous. Pronotum dark brown to black in mesal and basal portions. Elytra each with entire lateral portion, apex and base dark brown to black; subapical, transverse stripe lighter than remaining ochreous surface. Dark lateral area extended to elytral center, and dark basal area extended along suture to form triangle reaching to mid-length of suture. Mesosternum, metasternum and episterna brown. Length ratio of antennal segments 3 to 11 as follows: 4: 13: 22: 24: 26: 21: 24: 23: 26; segments 4 to 8 and 11 each about 4 times as long as wide. Pronotum with lateral margins arcuate; lateral keels entirely distinct; punctation fine and dense, well delimited and visible on dark areas, rather indistinct on ochreous areas. Elytra each with lateral margin arcuate; lateral keel entirely visible; apical margin rounded; inner apical angle lying posteriorly to level of outer apical angle, not prominent; sutural margin not raised; adsutural area flat; sutural stria parallel in anterior half, converging apically, curved near pronotal lobe, not extended along basal margin; discal punctation fairly fine and dense, punctures not well delimited, mostly larger than those on pronotum, and mostly distinctly

Figs 37 to 42

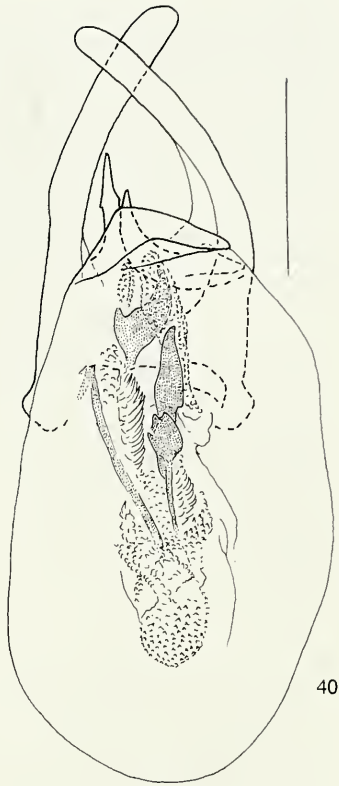
Aedeagi in *Scaphisoma*: 37 to 39 and 41, *S. pseudosolutum* sp. n., dorsal and lateral views, scale bar = 0.2 mm (37, 38), paramere in ventral view, scale bar = 0.2 mm (39), internal sac in dorsal view, scale bar = 0.1 (41); 40 and 42, *S. vexator* sp. n., aedeagus in dorsal view, scale bar = 0.3 mm (40), paramere in ventral view, scale bar = 0.2 mm (42).



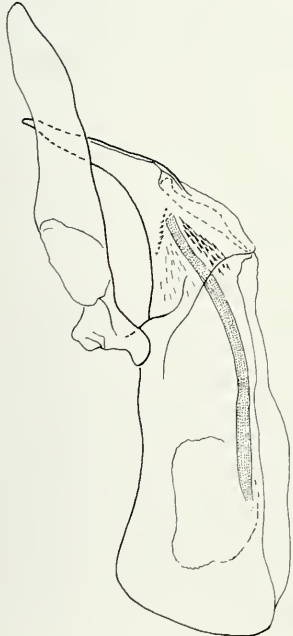
37



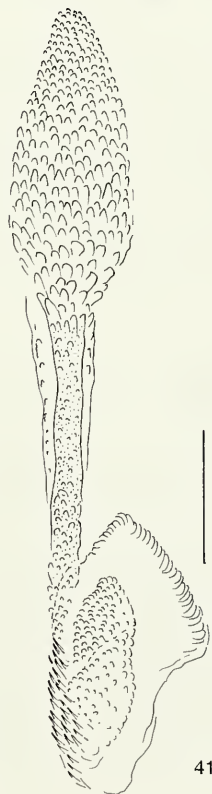
39



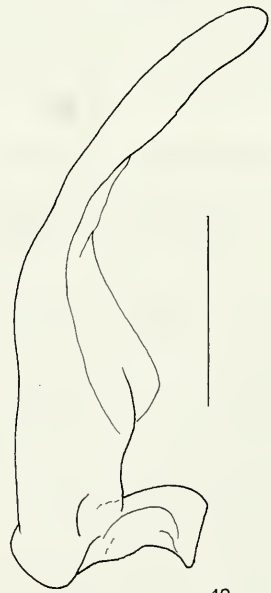
40



38



41



42

smaller than puncture intervals but some punctures about as large as puncture intervals. Prohypomera smooth. Mesepimeral ridge longer than interval to mesocoxa. Metasternum slightly convex in middle, lacking impressions; with microsculpture consisting of transverse striae becoming obsolete laterally, punctation sparse and very fine; antecoxal puncture row present but relatively inconspicuous. Mesocoxal line arcuate, very finely punctate; mesocoxal area 0.08 mm long. Metepisterna flat, moderately narrowed anteriorly, lying on lower plane than metasternum; suture straight. Abdomen very finely and sparsely punctate, with microsculpture consisting of transverse striae. Metacoxal line arcuate, finely punctate; metacoxal area 0.10 mm long.

Sexual characters of male. Segments 1 and 2 of protarsi and segment 1 of mesotarsi strongly widened, about as wide as apex of tibiae. Segment 3 of protarsi and segments 2 and 3 of mesotarsi widened, narrower than preceding segment. Aedeagus (Figs 40, 42) 1.12 mm long. Median lobe asymmetrical. Basal bulb large, weakly sclerotized. Ventral tubercles small, not prominent. Distal process of median lobe consisting of strongly sclerotized dorsal and ventral arms. Dorsal arm partly overlapped by basal bulb, curved, tapering and inflexed. Ventral arm longer than dorsal arm, straight, parallel-sided in anterior middle, tapering in posterior middle. Parameres wide, curved, with weakly sclerotized inner lobes. Internal sac complex, with two large, strongly sclerotized teeth, one narrow, long rod, and bearing squamose and denticulate membranous structures.

Comments. This species is closely related with *S. velox* Löbl. The aedeagi in both species are very similar (the length of the aedeagus of *S. velox* is not 0.55 mm as given by lapsus in the description, but 1.10 mm). *Scaphisoma velox* has the dorsal arm of the median lobe inconspicuous, the teeth-like sclerites of the internal sac longer, and the internal sac bearing an apical groups of denticles and a long basal rod which is absent from *S. vexator*. These two species may be easily distinguished by their colour pattern (the body is almost uniformly ochreous in *S. velox*).

Scaphisoma pseudovarium sp. n.

Figs 43 to 46

Holotype ♂: China, Yunnan, Gaoligong Mts, 2200-2500m, 24°57'N, 98°45'E, 8-16.v.1995, S. Bečvář (MHNG).

Paratypes: same data as holotype, 3 ♂, 5 ♀ (MHNG).

Description. Length 1.9-2.0 mm. Body with distinctive although variable colour pattern. Head and pronotum reddish-brown to blackish, lateral portions of pronotum sometimes lighter than pronotal center. Elytra ochreous or yellowish, with entire base and small subapical spot dark brown to black. Dark basal zone expanded apically along suture to cover at least anterior half of adsutural area, sometimes expanded to form large, triangular zone joined to subapical spots. Prohypomera ochreous. Mesosternum, metasternum, episterna and metepimera, and basal two or three exposed abdominal sternites dark brown to black. Following sternites and exposed abdominal tergites ochreous to yellowish. Appendages ochreous. Length ratio of antennal segments 3 to 11 as follows: 5: 15: 20: 20: 21: 19: 21: 20: 25 (holotype); segment 4 about 6 times as long as wide; segments 5 and 6 each about 7 times as long as wide; segment

7 almost 4 times as long as wide; segments 8 and 11 each almost 5 times as long as wide. Pronotum with evenly arcuate lateral margins; lateral keels visible near base; punctation dense and fine or very fine, less fine near base than at center, punctures not well delimited, usually smaller than puncture intervals. Apex of scutellum exposed. Elytra each with lateral margin arcuate in basal half, oblique in apical half; lateral keel entirely visible in dorsal view; apical margin truncate; inner apical angle lying posteriorly to level of outer apical angle, not prominent; sutural margin not raised; adsutural area flat; sutural stria converging to apex, parallel to suture in anterior half, curved along basal lobe of pronotum, not extended laterally along basal margin; discal punctation dense and coarse, puncture intervals mostly about as large as, or up to twice as large as puncture diameters. Propyopomera smooth. Mesepimeral ridge about 1.5 times as long as interval to mesocoxa. Metasternum lacking microsculpture, flattened in middle, without medio-apical impressions; punctation fine, dense on center, sparse laterally; antecoxal puncture row indicated by irregular row of punctures slightly larger than other metasternal punctures. Mesocoxal line arcuate, finely punctate; mesocoxal area 0.05-0.06 mm long. Metepisterna flat, moderately narrowed anteriorly, lying below plane of metasternum, with suture rounded near angles, straight in middle. Exposed abdominal segments very finely punctate, with microsculpture consisting of transverse striae. Metacoxal line strongly arcuate, finely punctate, metacoxal area 0.11-0.13 mm long.

Sexual characters of male. Segments 1 to 3 of protarsi and 1 and 2 of mesotarsi distinctly widened. Aedeagus (Figs 43 to 46) 1.02-1.04 mm long. Median lobe symmetrical. Basal bulb weakly sclerotized, slightly expanded apically, overlapping base of distal process. Ventral tubercles prominent. Distal process of median lobe inflexed, with ventral arm tapering and acute at apex, denticulate on dorsal side, bearing single denticle in middle of ventral side. Dorsal process partly fissured to form two joined rods strongly sclerotized along fissure. Parameres symmetrical, sinuate, with wide base, lobed and membranous at middle. Internal sac with two central tooth-like sclerites and membranes bearing squamose and spinose structures.

Comments. This species is very similar to *S. varium* Löbl with which it shares the colour pattern and most of the diagnostic characters. It may easily be distinguished from *S. varium* by the ventrally denticulate distal process of the median lobe, the irregular inner lobes of the parameres and the internal sac bearing two fairly long, central, sclerotized teeth. The aedeagus of *S. pseudovarium* is structurally very similar to that of *S. sasagoense* Löbl and *S. pinnigerum* Löbl. *Scaphisoma sasagoense* has the parameres narrowed subapically, and distinctly widened in apical portion, lacking a membranous lobe, and the internal sac with clusters of strongly sclerotized basal and apical denticles. In addition, *S. sasagoense* may be distinguished by the uniformly reddish-brown body. In *S. pinnigerum*, the metasternal antecoxal puncture row is distinct, the parameral lobe lies more apically, and the internal sac of the aedeagus bears a proximal striate structure which is absent from *S. pseudovarium* and *S. sasagoense*.

Scaphisoma heishuiense sp. n.

Figs 47 to 50

Holotype ♂: China, Yunnan, Heishui, 35km north Lijiang, 27°13'N, 100°19'E, 18.vi.-4.vii.1993, S. Bečvář (MHNG).

Description. Length 1.9 mm. In external characters very similar to *S. pseudovarium*, including the colour pattern. Body ochreous, with pronotum dark brown except near lateral margins and on anterior third, elytra with dark brown basal area expanded along suture to form not well delimited triangular spot, and with slightly darkened subapical spot, the latter not reaching to sutural stria. Mesosternum and metasternum with episterna and epimera dark brown. Appendages ochreous. Antennae almost as in *S. pseudovarium*: length ratio of antennal segments 3 to 11 as follows: 5: 12: 19: 17: 20: 16: 20: 19: 24. Pronotal punctation more sparse, with punctures mostly much smaller than puncture intervals. Metasternum with antecoxal puncture row obsolete. Mesocoxal area 0.05 mm long. Metepisterna slightly narrowed anteriorly, with straight suture. Metacoxal area 0.11 mm long. Punctation on mediobasal area of first exposed sternite relatively coarse. Aedeagus (Figs 47 to 50) 0.90 mm long. Ventro-apical process of median lobe narrower than in *S. pseudovarium*, sinuate, more densely denticulate on dorsal surface, lacking ventral denticle. Parameres barely sinuate, bent apically, with inner lobe narrow. Spinose structures of internal sac long and strongly sclerotized, teeth-like sclerites larger than those in *S. pseudovarium*.

Scaphisoma paravarium sp. n.

Figs 51 to 55

Holotype ♂: China, Yunnan, Gaoligong Mts, 2200-2500m, 24°57'N, 98°45'E, 8-16.v.1995, S. Bečvář (MHNG).

Paratypes: same data as holotype, 2 ♀ (NHMB, MHNG)

Description. Length 1.75-1.95 mm. In external characters very similar to *S. pseudovarium*, with almost the same colour pattern. Antennae similar to those in preceding species; length ratio of antennal segments 3 to 11 as follows: 5: 12: 18: 18: 21: 18: 20: 19: 24 (holotype). Pronotum broadly lighter laterally and anteriorly; elytra with dark apical spot not reaching to sutural stria. Lateral keels of pronotum concealed in dorsal view, those of elytra entirely visible or concealed in middle. Elytra each with sutural margin raised; punctation very fine near base, consisting of fairly large but very shallow and not clearly delimited punctures on posterior two thirds of disc.

Sexual characters of male. Protarsi with segments 1 and 2 strongly widened, segment 3 slightly widened. Mesotarsi with segments 1 and 2 slightly widened. Aedeagus (Figs. 51 to 55) 0.90 mm long. Median lobe symmetrical, with basal bulb weakly sclerotized, slightly expanded apically, lacking ventral tubercles. Distal process of

FIGS 43 to 50

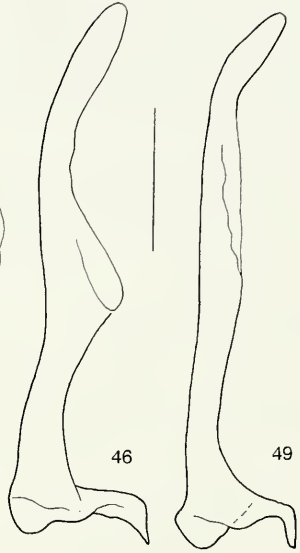
Aedeagi in *Scaphisoma*: 43 to 46. *S. pseudovarium* sp. n., aedeagus in dorsal and lateral views, scale bar = 0.2 mm (43, 44), apical portion of median lobe, in lateral view, scale bar = 0.1 mm (45), paramere in ventral view, scale bar = 0.2 mm (46); 47 to 50, *S. heishuiense* sp. n., aedeagus in dorsal and lateral views, scale bar = 0.2 mm (47, 48), paramere in ventral view, scale bar = 0.2 mm (49), apical portion of median lobe, in lateral view, scale bar = 0.1 mm (50).



43

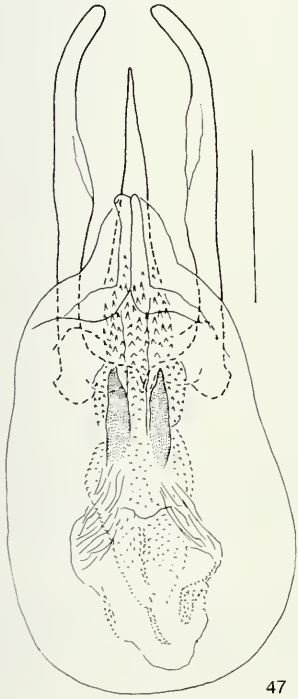


44



46

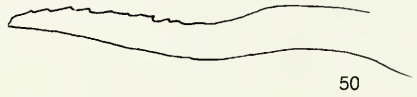
49



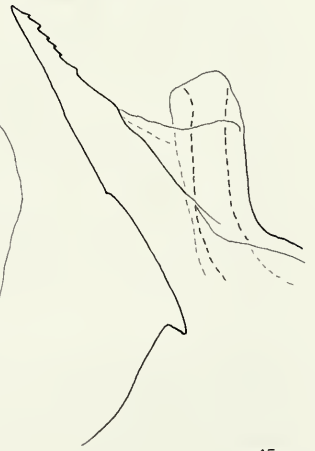
47



48



50



45

median lobe almost in same plane as basal bulb, tapering, denticulate dorso-apically. Dorsal valves apparently joined medianly, strongly sclerotized along inner margin. Parameres sinuate, almost evenly narrow, enlarged base excepted, with short, narrow, membranous lobe in posterior half. Internal sac lacking rods or robust teeth-like sclerites. Membranes of basal half of internal sac bearing denticulate structures overlapped laterally by squamose structures forming oblique, irregular rows. Denticular structures in apical portion of internal sac variable in size, more distinct than those in basal portion.

Comments. This species may be distinguished from the very similar *S. varium*, *S. pseudovarium* and *S. heishuiense* by the finer elytral punctation. It is well characterized by the shape of the parameres and the structures of the internal sac.

***Scaphisoma fibrosum* sp. n.**

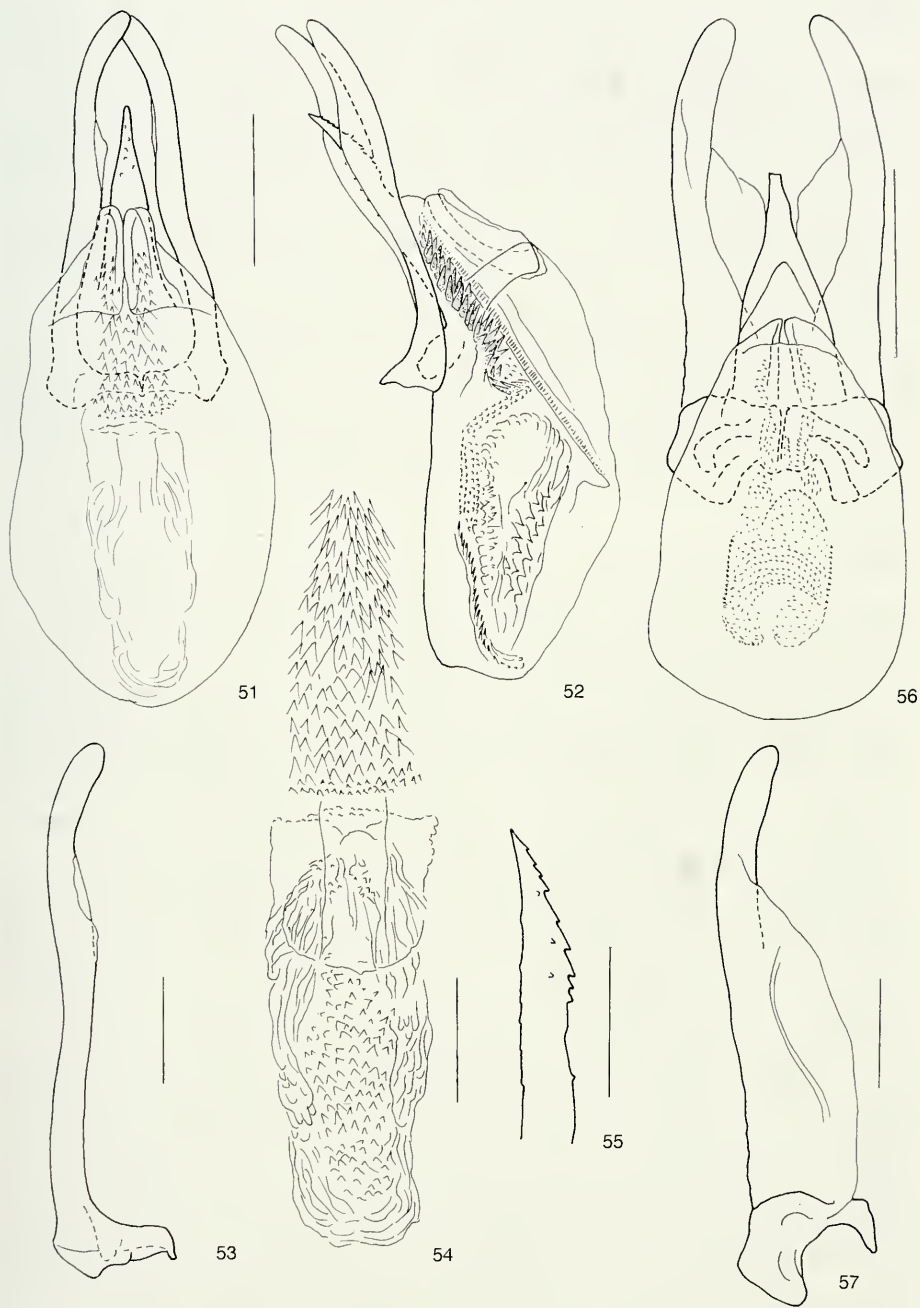
Figs 56, 57

Holotype ♂: China, Yunnan, Xishuangbanna, 24.i.1993, G. de Rougemont (MHNG).

Description. Length 1.7 mm. Head, thorax and basal two thirds of first exposed abdominal sternite dark brown. Elytra ochreous, with base dark brown to black; basal dark area expanded along suture to form triangular spot. Appendages, elytral apices and most of abdomen light ochreous. Antennae similar to those of preceding species; length ratio of antennal segments 3 to 11 as follows: 5: 12: 20: 19: 23: 19: 24: 23: 28. Pronotum with lateral margins oblique in dorsal view; lateral keels exposed; punctation fine and dense near base, becoming very fine and more sparse anteriorly; punctures not well delimited, slightly smaller than puncture interval near base. Apex of scutellum exposed. Elytra each with lateral margins arcuate anteriorly and posteriorly, oblique in middle; lateral keel distinct in dorsal view; apical margin slightly concave, dentate at and near inner angle; inner apical angle prominent, lying posterior to level of outer angle; sutural margin not raised; adsutural area flat; sutural stria straight, not curved near base, gradually, very slightly converging to suture apically; punctation coarse and dense, punctures not well delimited, partly about as large as puncture intervals. Prohypomera smooth. Mesepimeral ridge slightly longer than interval to mesocoxa. Metasternum slightly convex in middle, flattened medio-apically, covered by microsculpture consisting of transverse striae; metasternal punctation very fine and sparse, but dense and coarse on medio-apical area; antecoxal puncture row distinct, lying in impressed line. Mesocoxal line arcuate, coarsely punctate, mesocoxal area 0.04 mm long. Metepisterna convex, moderately narrowed anteriorly, lying below plane of metasternum; suture slightly arcuate anteriorly and posteriorly, straight in middle. Abdominal segments with microsculpture consisting of transverse striae but punctulate on laterobasal area of first sternite. Abdominal punc-

FIGS 51 to 57

Aedeagi in *Scaphisoma*; 51 to 55. *S. paravarium* sp. n., aedeagus in dorsal and lateral view, scale bar = 0.2 mm (51, 52), paramere in ventral view, scale bar = 0.1 mm (53), internal sac, dorsal view, scale bar = 0.1 mm (54), apical portion of median lobe, in lateral view, scale bar = 0.1 mm (55); 56 and 57. *S. fibrosum* sp. n., aedeagus in dorsal view, scale bar = 0.2 mm (56), paramere in ventral view, scale bar = 0.1 mm (57).



tation extremely fine. Metacoxal line arcuate, coarsely punctate; metacoxal area 0.05 mm long.

Sexual characters of male. Segments 1 and 2 of protarsi strongly widened. Segment 3 of protarsi and segments 1 and 2 of mesotarsi slightly widened. Aedeagus (Figs 56, 57) 0.78 mm long. Median lobe symmetrical. Basal bulb weakly sclerotized, expanded over proximal part of distal process of median lobe, lacking ventral tubercles. Distal process inflexed, gradually narrowed, with tip truncate in dorsal view. Dorsal valves incompletely separated by fissure. Parameres wide, moderately curved, with outer margin almost straight up to apical portion, with wide, inner, membranous lobe; parameral basis strongly enlarged. Internal sac with membranes bearing very small squamose or denticulate structures, lacking sclerotized rods or teeth.

Comments. This species is obviously closely related to *S. varium*, *S. pinnigerum*, *S. pseudovarium*, *S. heishuiense*, and *S. paravarium* with which it shares the structurally similar aedeagus. *Scaphisoma fibrosum* may be easily separated from these species by the coarse elytral punctation, the antecoxal puncture row lying in an impressed line, the broad parameres, and the absence from sclerotized structures in the internal sac.

***Scaphisoma incisum* sp. n.**

Figs 58 to 61

Holotype ♂: China, Yunnan, Lijiang, 1800m. 26°53' N, 100°18' E, 21.vii.1992, S. Bečvář (MHNG).

Paratypes: same data as holotype, 4 ♀ (MHNG).

Description. Length 1.70-1.75 mm. Head and most of pronotum very dark, almost blackish, with or without reddish lustre. Elytra as pronotum, or with large portion of disc somewhat lighter and reddish; elytral apices ochreous. Femora and tibiae ochreous. tarsi and abdominal apex yellowish. Length ratio of antennal segments 3 to 11 as follows: 6: 10: 15: 15: 17: 13: 17: 15: 19 (holotype). Pronotum with lateral margins evenly arcuate; lateral keels visible; punctation very fine, sparse, most punctures very shallow and not well delimited, but punctures near base appear slightly deeper and better delimited. Apex of scutellum exposed. Elytra each with lateral margin almost evenly arcuate; lateral keel visible in dorsal view; apical margin truncate, inner apical angle posterior to level of outer angle. not prominent; sutural stria slightly diverging from apex to mid-length of elytron, parallel from mid-length to level of pronotal lobe, slightly curved and ending near pronotal lobe; discal punctation fine and rather sparse, consisting of well delimited punctures, much larger than those on pronotum, puncture intervals mostly 3 to 5 times as large as puncture diameters. Pygidium conspicuously notched medio-apically, very finely punctate, with microsculpture consisting of transverse striae. Prohypomera smooth. Mesepimeral ridge about 1.5 times as long as interval to mesocoxa. Metasternum slightly convex in middle, lacking impressions, without microsculpture. Metasternal punctation very fine and sparse on lateral and on medio-anterior portions, more dense and less fine medio-apically and on areas between mesocoxae and metacoxae; antecoxal puncture row barely indicated. Mesocoxal lines arcuate, finely punctate, mesocoxal area 0.05 mm long. Metepisternum flat, lying below plane of metasternum, moderately narrowed

anteriorly, with almost straight suture. Abdominal sternites with microsculpture consisting of transverse striae; punctation very fine and sparse. Metacoxal line arcuate, fairly coarsely punctate; metacoxal area 0.08 mm long. Tibiae straight.

Male sexual characters. Segment 1 of protarsi strongly widened, about as wide as apex of tibia. Segment 2 of protarsi slightly widened, segment 3 of protarsi and segments 1 and 2 of mesotarsi barely widened. Aedeagus (Figs 58 to 61) 0.82 mm long. Median lobe almost as in *S. pseudovarium*, but with distal process oblique, not sinuate ventrally, bearing numerous dorsal denticles and single ventral denticle, as in the latter species. Parameres less curved apically, with inner lobe very narrow, inconspicuous. Internal sac with two proximal, rather large, teeth-like sclerites, lacking any particular structures in middle, denticulate in apical portion.

Comments. This species has the aedeagus similar to that of *S. varium* and the three species described above. It is obviously closely related to these four species but may be readily distinguished by the colour pattern and incised pygidium. The presence of a pair of teeth-like sclerites in the internal sac may indicate relationships to *S. pseudovarium* and *S. heishuiense*.

Scaphisoma migrator sp. n.

Figs 62 to 65

Holotype ♂: China, Shaanxi, east of Xian, Mt. Huashan, 500m, 12.v.1994, S. A. Kurbatov (MHNG).

Paratypes: same data as holotype, 2 ♂ (MHNG); Sichuan, Mt. Emei, 1700m, 22.ix.1994, S. A. Kurbatov, 3 ♂ and with same data but 1500, 21.ix., 1 ♂ (MHNG); Sichuan, Wolong Nat. Res., 24.v.1994, S. A. Kurbatov, 1 ♂ and with same data but 1700m, 19.v., 2 ♂ (MHNG); Shaanxi, On Ling Shan [=An Ling Shan], 110°06'E 34°27'N, Hua Shan, 118km east xian, N valley, 1200-1400m, 12-20.viii.1995, D. W. Wrase, 1 ♂ (PCMS); Shaanxi, On Lin Shan, 107°56'E 32°45'N, autoroute 93km south Zhouzhi, 108km southwest Xian, 1650m, mountaine forest, 2.ix.1995, D. W. Wrase, 1 ♂ (PCMS); Shaanxi, Taibai Shan above Houshenzi, 130-1700m, 9.vi.-3.vii.1998, P. Jäger & J. Martens, 1 ♂ (SMNS).

Description. This species is very similar to, and possesses most diagnostic features of *S. morosum* Löbl, *S. khao* Löbl, *S. karen* Löbl, *S. prehensor* Champion, and *S. tortile* Löbl. The colour pattern of the elytra is fairly variable, the apical fifth to third of the disc is light. The metasternal antecoxal puncture row is irregular and usually less distinct than in similar species. This new species is characterized by the male genitalia.

Aedeagus (Figs 62 to 65) 0.76-0.87 mm long. Median lobe symmetrical, fairly strongly sclerotized. Basal bulb very large, partly overlapping basal bulb. Ventral tubercles small, not prominent. Distal process of median lobe inflexed and arcuate, fairly long in lateral view, appearing short and straight in dorsal view, with small subapical denticle on dorsal side and tip acute. Dorsal valves completely separated, short, parallel. Internal sac complex, with large, sclerotized, apicolateral denticles joined to long, straight, tubular portion consisting of spinose structures. Parameres gradually narrowed from base to subapical portion, widened and slightly curved in apical portion, with small, inner, membranous lobe.

Comments. This species appears closely allied to *S. morosum* with which it shares structural characters of the aedeagus, in particular the presence of a small,

subapical parameral lobe, and similar internal sac. *Scaphisoma migrator* may be distinguished from *S. morosum* by the teeth-like apical sclerites joined by complex membranous structures, the absence of dorso-apical plate of the internal sac, and wider apical portion of the parameres.

In the absence of non sexual specific characters I have tentatively associated 14 females with the males listed above. The females were obviously collected together with the males.

Scaphisoma mutator sp. n.

Figs 66 to 69

Holotype ♂: China, Sichuan, Wolong Nat. Res., 1500m, 21.v.1994, S. A. Kurbatov (MHNG).

Paratypes: China, Sichuan, Wolong Nat. Res., 1000m, 24.v.1994, litter, S. A. Kurbatov, 2 ♂ (MHNG), same data but ca 500m, 15-16.v.94, 1 ♂ (MHNG); Mt. Emei, 1500m, 21.ix. 1994, litter, S. A. Kurbatov, 1 ♂ (MHNG); same data but 1700m, 22.ix., 4 ♂ (MHNG); same data but 1800m, 1 ♂ (MHNG); Sichuan, Quingchen-Shan, 650-700m, 30°53'56''N, 103°33'01''E, 18.v.1997, M. Schülke, 2 ♂ (PCMS); same but Qiencheng Shan NW Chengdu, 30°54'N, 103°33'E, D. Wrase, 3 ♂ (PCMS, MHNG); same but 65km NW Chengdu, 8km W Taiping, 800-1000m, A. Pütz, 3 ♂ (PCAP, MHNG); Shaanxi, Qin Lin Shan 110°06'E, 34°27'N, N Hua Shan 118km east Xian, N valley, 1200-1400m, leafy wd., 18-20.viii.1995, D. Wrase, 1 ♂ (PCMS); same but sifted, M. Schülke, 4 ♂ (PCMS, MHNG); Shaanxi, east Xian, Huashan, 700m, 9-12.v.1994, S. A. Kurbatov, 17 ♂ (MHNG).

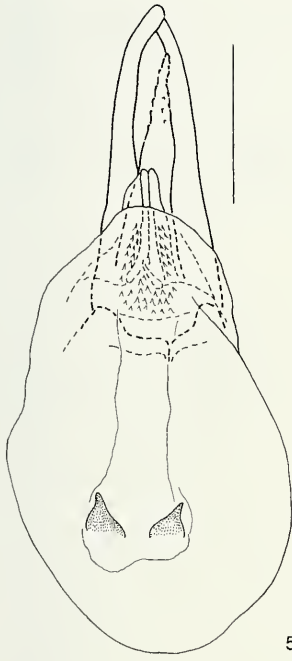
Description. Length 1.70-1.85 mm. Body dark reddish-brown, in some specimens almost blackish, apices of elytra usually distinctly lighter; tarsi, antennae and apex of abdomen light brown to yellowish. In external characters very similar to *S. tortile* Löbl but elytra with lateral keels usually concealed in dorsal view and sutural striae slightly diverging up to base; medio-apical portion of metasternum slightly impressed. This new species may be distinguished by the aedeagal characters.

Aedeagus (Figs 66 to 69) 0.86 - 0.95 mm long. Median lobe fairly strongly sclerotized, symmetrical. Basal bulb very large. Ventral tubercles small, not prominent. Distal process of median lobe short, inflexed ventrally and oblique, very narrow in lateral view, with single, fairly large apicodorsal denticle. Dorsal valves short, completely separated, gradually narrowed apically. Internal sac complex, with long, central row of oblique or transverse teeth-like sclerites pointed ventrally, short subapical denticles, and two groups of apical denticles pointed toward apex. Parameres sinuate, wide in middle, with very narrow inner lobe, slightly widened in apical portion (dorsal view), gradually narrowed from middle toward apex in lateral view.

Comments. This species is a member of the *S. haemorrhoidalis* group and appears to be closely related to *S. tortile* Löbl and *S. prehensor* Champion. It shares with these two species, in addition to an overall similarity, the internal sac of the

Figs 58 to 64

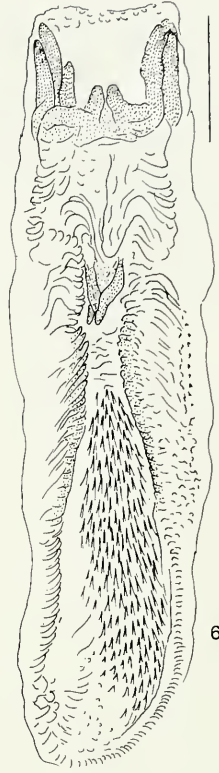
Aedeagi in *Scaphisoma*; 58 to 61, *S. incisum* sp. n., aedeagus in dorsal and lateral views, scale bar 0.2 mm (58, 59), apical portion of median lobe, in lateral view, scale bar = 0.1 mm (60), paramere in ventral view, scale bar = 0.1 mm (61); 62 to 64, *S. migrator* sp. n., aedeagus in dorsal view, scale bar = 0.2 mm (62); internal sac, scale bar = 0.1 mm (63), paramere in ventral view, scale bar = 0.1 mm (64).



58



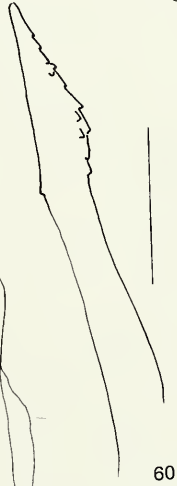
62



63



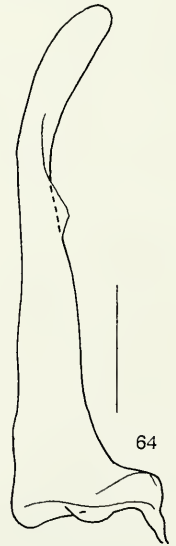
59



60



61



64

aedeagus bearing a long row of teeth-like sclerites, and the apical denticles pointed toward apex. *Scaphisoma mutator* may be distinguished from *S. tortile* and *S. prehensor* by the absence of a large sclerotized plate or tooth in central part of the internal sac, by the apical denticles grouped to form two clusters, and the parameres sinuate and widened apically.

An additional 32 females from Huashan are likely conspecific but are not included in the type series because this species can be recognized only by the male characters.

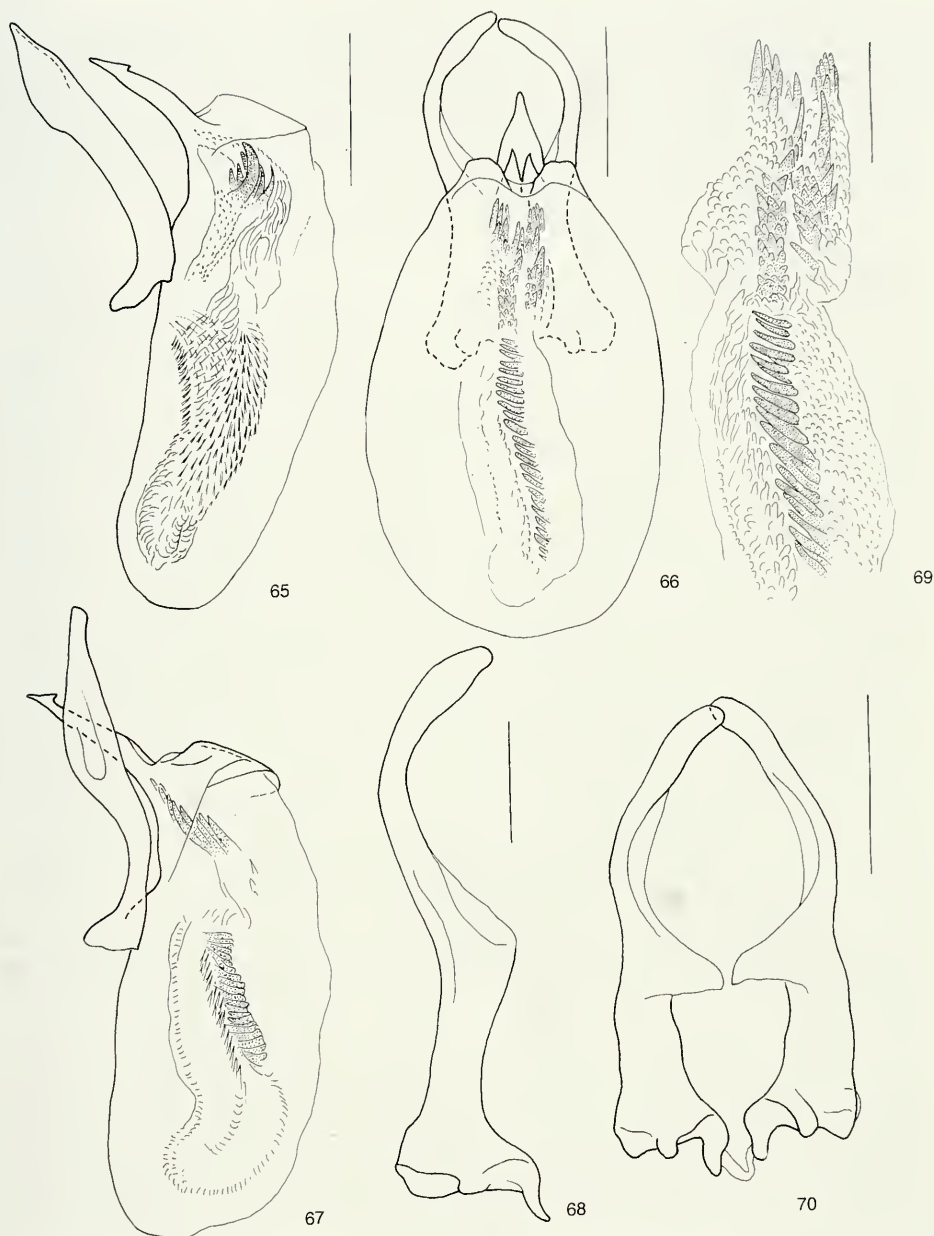
Scaphisoma suspiciosum sp. n.

Figs 70 to 73

Holotype ♂: China, Yunnan, Xishuangbanna, 24.i.1993, G. de Rougemont (MHNG).

Description. Length 1.7 mm. Body, femora and tibiae light reddish-brown, apical third of elytra and apical abdominal segments lighter, ochreous. Antennae and tarsi yellowish. Pronotum with slightly arcuate lateral margins; lateral keels exposed; discal punctation sparse and very fine, punctures particularly shallow and not clearly delimited. Tip of scutellum exposed. Elytra each with lateral margin rounded near base, straight in posterior two thirds; apical margin truncate, inner apical angle lying posterior to level of outer apical angle, not prominent; sutural margin not raised, adsutural area flat; sutural stria slightly diverging from apex to mid-length, parallel to suture in anterior half, slightly curved near base; punctation dense and fairly fine, puncture intervals mostly as large as to 3 times larger than puncture diameters. Exposed abdominal tergites extremely finely punctate. Prohypomera smooth. Mesepimeral ridge longer than interval to mesocoxa. Metasternum without microsculpture and with very fine and sparse punctation on lateral portions, lacking antecoxal puncture row. Middle portion of metasternum flattened, with shallow impression in center, fine and dense punctation, and very finely microsculptured. Mesocoxal line arcuate, finely punctate; mesocoxal area 0.08 mm long. Metepisterna flat, moderately narrowed anteriorly, lying below plane of metasternum, with slightly sinuate suture. Abdomen with microsculpture consisting of transverse striae; sternites very finely punctate. Metacoxal line arcuate, fairly coarsely punctate; metacoxal area 0.07 mm long.

Sexual characters of male. Segments 1 and 2 of protarsi and 1 of mesotarsi strongly widened, about as wide as tibia, segment 2 of mesotarsi moderately widened. Aedeagus (Figs 70 to 73) 0.93 mm long. Median lobe symmetrical, fairly strongly sclerotized. Basal bulb large, in dorsal view completely overlapping distal process and dorsal valves. Ventral tubercle robust, not prominent. Distal process strongly inflexed, almost perpendicular to axis of median lobe, gradually narrowed, with minute sub-apical denticle (tip broken off). Dorsal valves very short, completely separated, slightly curved. Parameres sinuate, with wide, relatively short lobe in posterior basal third, equally wide posterior lobe in dorsal view, gradually narrowed from lobe to apex in lateral view. Internal sac complex, with very dense spinose structures in basal half, followed by oblique, widened, central portion bearing large and strongly sclerotized teeth-like sclerites and apical portion consisting of small teeth and squamose structures.



FIGS 65 TO 70

Aedeagi in *Scaphisoma*; 65, *S. migrator* sp. n., lateral view, scale bar = 0.2 mm; 66 to 69, *S. mutator* sp. n., aedeagus in dorsal and lateral views, scale bar = 0.2 mm (66, 67), paramere in ventral view, scale bar = 0.1 mm (68), internal sac in dorsal view, scale bar 0.1 mm (69); 70, *S. suspiciosum* sp. n., parameres in ventral view, scale bar = 0.2 mm.

Comments. This species is a member of the *S. haemorrhoidale* group. It appears to be closely related to *S. insulanum* Löbl, which possesses a long median lobe, with very short dorsal valves, similar shape of parameres and structurally similar internal sac. Both species differ notably in the shape of the distal process of the median lobe which in *S. suspiciosum* is much more inflexed and overlapped by the basal bulb in dorsal view.

The holotype has the segments 3 - 11 of both antennae broken off.

Scaphisoma irruptum sp. n.

Figs 74 to 76, 81

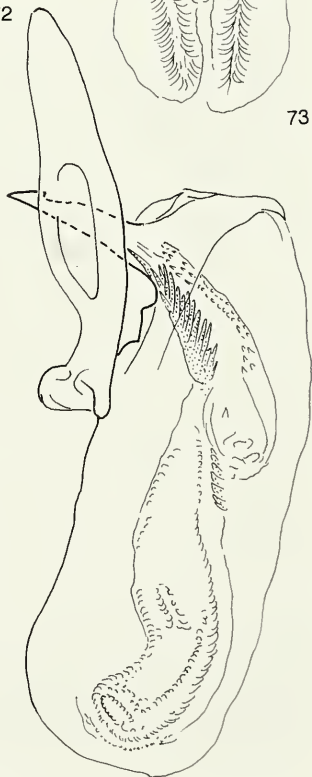
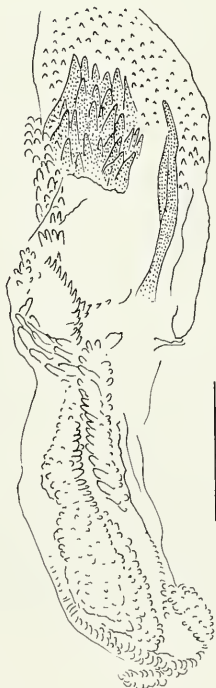
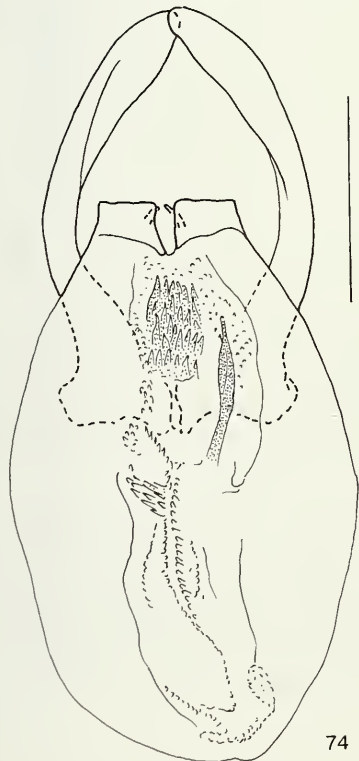
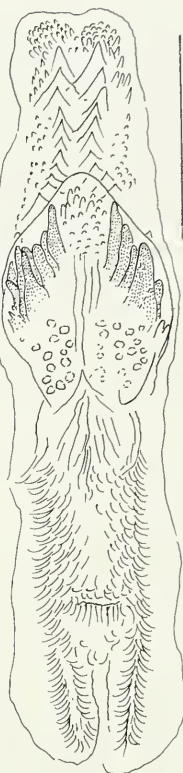
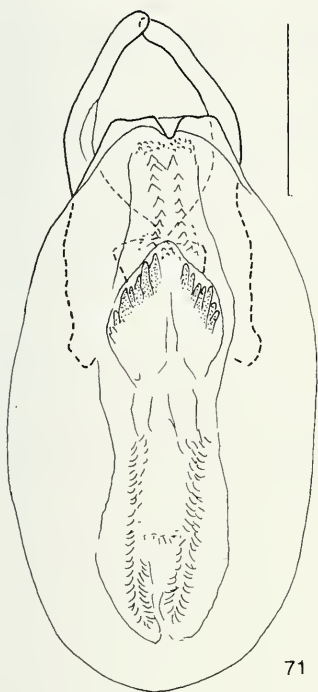
Holotype ♂: China, Yunnan, Xishuangbanna, 24.i.1993, G. de Rougemont (MHNG).

Description. Length 1.6 mm. Body and femora dark reddish-brown, apical third of elytra and apex of abdomen light ochreous. Tibiae and tarsi ochreous. Pronotum with lateral margins evenly arcuate; lateral keels visible in dorsal view; discal punctation very fine and sparse, consisting of minute and not well delimited punctures. Tip of scutellum exposed. Elytra each with lateral margin slightly arcuate near base and in apical third, oblique in middle; lateral keel entirely exposed; apical margin slightly rounded, inner apical angle posterior to level outer apical angle, not prominent; sutural margin not raised, adsutural area flat; sutural striae diverging from middle to apex, parallel to anterior middle, curved along pronotal lobe, not extended laterally; punctation fine and dense in apical half, puncture intervals mostly as large as, to 3 times larger than, puncture diameters in apical half, 3 to 5 times larger than puncture diameters near base. Prohypomera smooth. Mesepimeral ridge longer than interval to mesocoxa. Middle and lateroposterior portions of metasternum with microsculpture consisting of transverse striae, most of lateral portions of metasternum without microsculpture. Metasternum flattened in middle, lacking impression, with very fine and dense punctation. Lateral portions of metasternum with punctation sparse and very fine; antecoxal puncture row distinct. Mesocoxal line arcuate, finely punctate; mesocoxal area 0.08 mm long. Metepisterna flat, narrowed anteriorly, lying below plane of metasternum; suture oblique, rounded near angles. Exposed abdominal segments with sparse and very fine punctation, and with distinct microsculpture consisting of transverse striae. Metacoxal line arcuate, finely punctate; metacoxal area 0.07 mm long.

Sexual characters of male. Segments 1 and 2 of protarsi strongly widened, about as wide as tibiae. Segment 3 of protarsi moderately widened. Aedeagus (Figs 74 to 76, 81) 0.72 mm long. Median lobe symmetrical, with basal bulb large, moderately sclerotized, overlapping distal process in dorsal view. Ventral tubercles distinct, not prominent. Distal process strongly inflexed ventrally, thick basally, abruptly angulate

FIGS 71 to 76

Aedeagi in *Scaphisoma*: 71 to 73. *S. suspiciosum* sp. n., aedeagus in dorsal and lateral views, scale bar = 0.2 mm (71, 72), internal sac in dorsal view, scale bar = 0.2 mm (73); 74 to 76. *S. irruptum* sp. n., aedeagus in dorsal and lateral views, scale bar = 0.2 mm (74, 76), internal sac in dorsal view, scale bar = 0.1 mm (75).



posterior to ventral process (lateral view), gradually narrowed toward tip in lateral view and bearing small, subapical tooth on dorsal side; tip acute. Dorsal valves short, completely separated, slightly curved. Internal sac complex, with long, straight basal portion consisting of spinose structures, central plate covering two rows of robust teeth, followed by rows of denticles becoming larger apically, and by fine squamose structures. Parameres sinuate, large in basal portion, abruptly widened in anterior mid-length, forming large inner lobe.

Comments. This species is another member of the *S. haemorrhoidale* group. It is characterized by the aedeagus with angulate ventral side of the median lobe, internal sac bearing long, narrow rod, and wide parameres.

Scaphisoma volitatum sp. n.

Figs 77 to 80

Holotype ♂: China, Yunnan, Xishuangbanna, 24.i.1993, G. de Rougemont (MHNG).

Description. Length 1.6 mm. Body and femora dark reddish-brown, apical third of elytra, apex of abdomen, tibiae, tarsi and antennae light ochreous to yellowish. Basal half of elytra slightly lighter than narrow dark area delimiting apical ochreous third of elytra, and lighter than pronotum. Pronotum with lateral margins evenly arcuate; lateral keels entirely, but hardly, visible; discal punctation fairly dense, very fine, particularly shallow and not clearly delimited. Tip of scutellum exposed. Elytra each with lateral margin slightly arcuate; lateral keel entirely distinct; apical margin truncate; inner apical angle lying posterior to level of outer apical angle, not prominent; sutural margin not raised, adsutural area flat; sutural stria parallel to suture in anterior mid-length, converging to suture from middle to apex, curved near base, ending near pronotal lobe; discal punctation fairly sparse and fine, punctures mostly well delimited, puncture intervals mostly 2 to 3 times as large as puncture diameters in middle of disc, becoming larger anteriorly. Prohypomera smooth. Mesepisterna very finely punctate. Mesepimeral ridge about twice as long as interval to mesosternum. Metasternum with microsculpture consisting of transverse striae, covering large middle portion and extending to level of lateral edges of mesocoxae; surface lateral of mesocoxae lacking microsculpture. Medio-apical area of metasternum flattened, without microsculpture, with punctation dense and rather fine. Lateral portions of metasternum very finely punctate, with antecoxal puncture row distinct, dense, coarse and irregular. Mesocoxal line arcuate, finely punctate; mesocoxal area 0.07 mm long. Metepisterna flat, strongly narrowed anteriorly, lying below plane of metasternum, with suture oblique in middle, curved near angles. Exposed abdominal segment with microsculpture consisting of transverse striae, except laterobasal portions of first sternite which lacks microsculpture. Punctation of first sternite sparse and very fine. Metacoxal line arcuate, finely punctate, metacoxal area 0.07 mm long.

Sexual characters of male. Segments 1 to 3 of protarsi strongly widened. Segments 1 and 2 of mesotarsi moderately widened, segment 3 of mesotarsi hardly widened. Aedeagus (Figs 77 to 80) 0.86 mm long. Median lobe large, symmetrical. Basal bulb partly overlapping distal process, moderately sclerotized. Distal process inflexed, gradually narrowed, with acute tip in dorsal view; narrowed subapically,

with tip dorsoventrally expanded and obliquely truncate in lateral view. Dorsal valves slightly curved, tapering apically. Ventral tubercles small, not prominent. Internal sac complex, with lateral row of strongly sclerotized, blunt basal teeth, numerous sub-apical denticles, one large, long rod curved and pointed apically, and membranes bearing spinose and squamose structures. Parameres wide, curved posterior of mid-length, with fairly large inner lobe in middle, apical portion distinctly widened and weakly sclerotized.

Comments. This species is another member of the *S. haemorrhoidale* group. It may be distinguished from related species possessing a similar colour pattern only by the aedeagal characters, in particular by the shape of the rod of the internal sac, in combination with the presence of a row of blunt teeth and wide parameres. The aedeagal characters indicate close relationships to *S. tortile* Löbl and *S. prehensor* Champion. The latter species differs drastically by the presence of a flat sclerite in the middle portion of the internal sac. *Scaphisoma tortile* may be distinguished from *S. volitatum* by the shape of the rod and the subapical denticulate and spinose area of the internal sac being distinctly delimited.

Scaphisoma vestigator sp. n.

Figs 82 to 85

Holotype ♂: China, Sichuan, Mt. Emei, 1700m, 22.ix.1994, litter, S. A. Kurbatov (MHNG).

Paratype ♂: same data as holotype (MHNG).

Description. Length 1.65 - 1.80 mm. Body very dark reddish brown to blackish-brown. Apical sixth to fifth of elytra, apical abdominal segments, femora and tibiae ochreous, tarsi and antennae lighter, yellowish. Ochreous apical band of elytra extending more anteriorly, and about as long as one fourth of elytral length, near lateral margins. Pronotum with lateral margins evenly arcuate; lateral keels visible only near base; discal punctation dense and very fine, consisting of shallow, not well delimited punctures. Point of scutellum exposed. Elytra each with lateral margin slightly arcuate anteriorly and in apical third, oblique in middle; lateral keel entirely visible; apical margin truncate; inner apical angle lying posterior level of outer apical angle, not prominent; sutural margin not raised; adsutural area flat; sutural striae diverging from apex to mid-length, parallel from middle to level of pronotal lobe, curved along pronotal lobe to reach base near pronotal lobe; punctation similar to that on pronotal disc near base, along sutural stria and lateral margin, becoming gradually coarser and more dense posteriorly; punctures in middle and on most of posterior half not well delimited, puncture intervals about 2 to 5 times as large as puncture diameters. Prohypomera smooth. Mesepisterna extremely finely punctate. Mesepimeral ridge about as long as interval to mesocoxa. Metasternum with shallow medio-apical impression; finely punctate and with microsculpture consisting of transverse striae in middle. Lateral portions of metasternum lacking microsculpture, with punctation very fine and sparse; antecoxal puncture row inconspicuous, consisting of few, fine punctures. Mesocoxal line arcuate, coarsely punctate; mesocoxal area 0.05 mm long. Metepisterna flat, moderately narrowed anteriorly, lying below plane of metasternum, with suture straight except near angles. Exposed abdominal segments with microsculpture consisting of transverse striae, laterobasal portions of first sternite lacking

microsculpture. Abdominal punctation very fine and sparse. Metacoxal line arcuate, coarsely punctate; metacoxal area 0.10 mm long.

Sexual characters of male. Segments 1 to 3 of protarsi strongly widened, segments 1 and 2 of mesotarsi slightly widened. Aedeagus (Figs 82 to 85) 0.88-0.92 mm long. Median lobe large, symmetrical. Basal bulb weakly sclerotized, almost completely overlapping apical process (dorsal view). Ventral tubercles small, not prominent. Distal process short, obliquely inflexed, with subapical denticle on dorsal side. Dorsal valves slightly curved, blunt. Internal sac complex, with basal portion strongly incurved, bearing dense spinose and squamose structures. Central portion of internal sac narrow, with one long, slender rod. Apical portion of internal sac straight, formed by two lobes joined apically, bearing dense, fine, squamose structures, and larger, strongly sclerotized, subapical denticles. Parameres wide and straight at base, narrowed in middle portion, arcuate in apical half (dorsal view), with long, narrow, inner lobe; slightly sinuate and widest anterior middle in lateral view.

Comments. This new species is also a member of the *S. haemorrhoidale* group. It is unique in having the aedeagus with short distal process overlapped by basal bulb in combination with the internal sac curved basally and bearing a median rod. The aedeagal characters indicate close relationships to *S. irruptum*. It may be distinguished from *S. irruptum* by the apical half of the parameres being narrower and the median lobe lacking an angulate area posterior to ventral tubercles.

Scaphisoma dumosum sp. n.

Figs 85 to 89

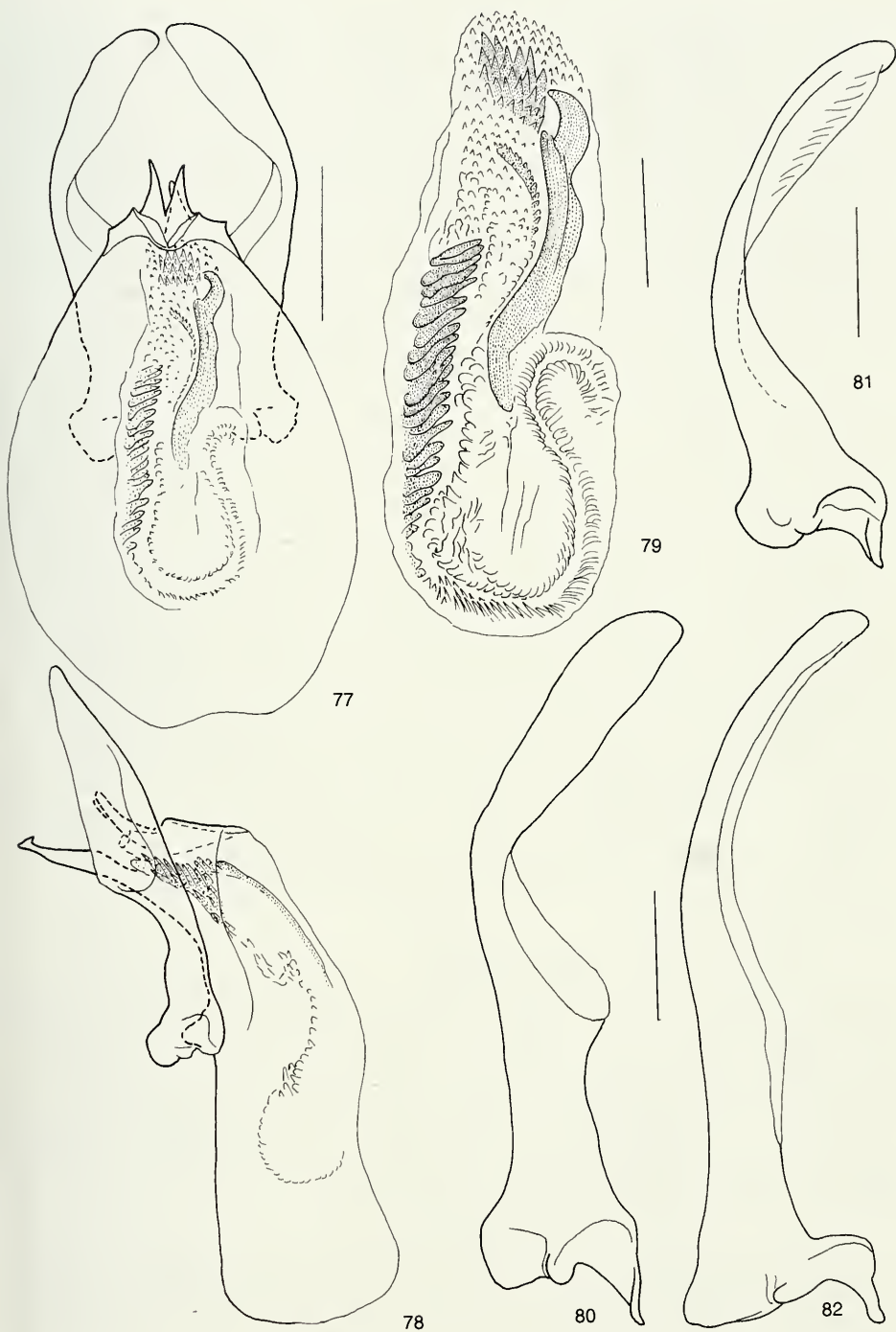
Holotype ♂: China, Yunnan, above Dali, 2000-2200m, 4.-17.iv.1999, W. Schawaller (SMNS).

Paratypes: same data as holotype, 1 ♂ (MHNG); Yunnan, Gongga Shan, Moxi, 1300m, 11.vii.1996, 20°13'N 102°10'E, A. Smetana, J. Farkač and P. Kabátek, 2 ♂ (MHNG).

Description. Length 1.65-1.75 mm. Body dark brown to black, apical fourth of elytra, apical abdominal segments, tarsi and antennae light ochreous, femora and tibiae reddish-brown. Pronotum with evenly arcuate lateral margins; lateral keel not exposed; discal punctation extremely fine, sparse, consisting of very shallow and not clearly delimited punctures. Point of scutellum exposed. Elytra each with lateral margin slightly arcuate; lateral keel entirely visible; apical margin truncate; inner apical angle posterior to level of outer apical angle, not prominent; sutural margin not raised; adsutural area flat; sutural striae diverging from apex to mid-length, parallel from middle to level of pronotal lobe, curved along pronotal lobe to reach base near pronotal lobe; punctation similar to that on pronotal disc, near base, along sutural stria and lateral margin, becoming gradually coarser and denser posteriorly; punctures in middle and on most of posterior half not well delimited, puncture intervals about 2 to 5 times as large as puncture diameters. Prohypomera and mesepisterna extremely

FIGS 77 to 82

Aedeagi in *Scaphisoma*; 77 to 80, *S. volitatum* sp. n., aedeagus in dorsal and lateral views, scale bar = 0.2 mm (77, 78), internal sac in dorsal view, scale bar 0.1 mm (79), paramere in ventral view, scale bar = 0.1 mm (80); 81, *S. irruptum* sp. n., paramere in ventral view, scale bar = 0.1 mm; 82, *S. vestigatum* sp. n., paramere in ventral view, scale bar = 0.1 mm.



finely punctate. Mesepimeral ridge about twice as long as interval to mesocoxa. Metasternum without median impressions, flattened medio-apically; with microsculpture consisting of transverse striae present only on narrow medio-apical area, most of surface lacking microsculpture. Punctuation sparse and very fine on lateral portions of metasternum, less fine on center of metasternum. Mesocoxal line subtriangular, coarsely punctate; mesocoxal area 0.07-0.08 mm long. Antecoxal puncture row absent. Metepisterna flat, hardly narrowed anteriorly, lying below plane of metasternum, with straight suture between rounded angles. Exposed abdominal segments with microsculpture consisting of transverse striae. First abdominal sternite sparsely and coarsely punctate, lacking microsculpture on basolateral area. Metacoxal line arcuate, very finely punctate; metacoxal area 0.08-0.10 mm long.

Sexual characters of male. Segments 1 to 3 of protarsi strongly widened, segments 1 and 2 of mesotarsi moderately widened. Aedeagus (Figs 85 to 89) 0.69 - 0.72 mm long. Median lobe symmetrical, moderately sclerotized. Basal bulb large, partly overlapping distal process. Distal process strongly inflexed, almost straight, gradually narrowed, with subapical denticle; tip acute. Dorsal valves slightly curved, acute. Ventral tubercles small, inconspicuous. Internal sac complex, with straight, wide and long basal portion consisting of rows of fairly strongly sclerotized central denticles covered by fine spicules, and lateral, weakly sclerotized, irregularly structured areas. Subapical portion of internal sac with moderately sclerotized, triangular plate rising apically and curved (lateral view); apical portion with six blunt, strongly sclerotized, robust denticles joined to finely denticulate membranous area. Parameres almost on same plane as basal bulb, arcuate in apical half (dorsal view), fairly wide, with narrow inner lobe; widest in middle and slightly narrowed toward apex in lateral view.

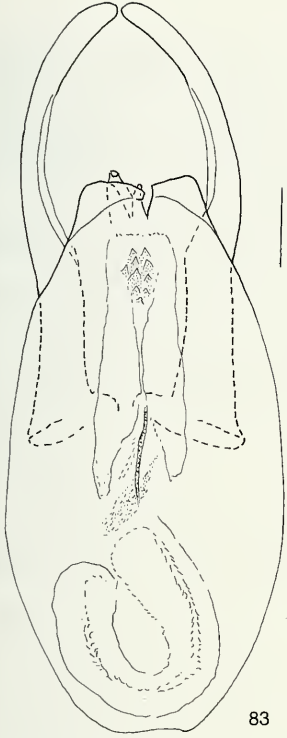
Comments. This species exhibits on internal sac of the aedeagus similar to that of *S. migrator*. Both species have robust apical denticles and basal portion of the internal sac straight, bearing fine spicules. *Scaphisoma dumosum* may be separated from *S. migrator* by the parameres being more curved and lacking a subapical lobe, and by the presence of a plate in the subapical part of the internal sac.

ACKNOWLEDGEMENTS

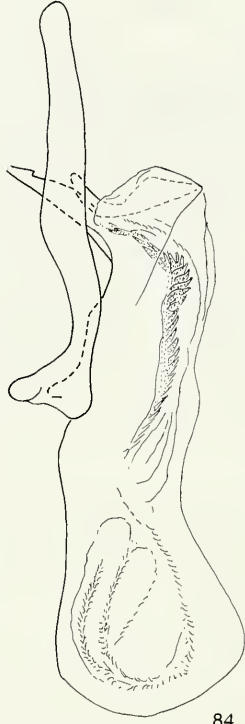
My thanks are due to following colleagues and friends who provides material, either as loan from collections of which they are in charge, or as donation: S. Bečvář (České Budějovice), N. Berti (Paris), D. Burckhardt (Basel), J. Cooter (Hereford), Z. Kejval (Domažlice), D. Král (Praha), V. Kubán (Brno), S. A. Kurbatov (Moscow), J. Jelínek (Prague), C. Johnson (Manchester), A. Pütz (Eisenhüttenstadt), G. de Rougemont (London), W. Schawaller (Stuttgart), M. Schülke (Berlin), A. Smetana (Ottawa), and E. Sprecher (Basel). I thank also G. de Rougemont (London) for comments on the manuscript which improved the study.

FIGS 83 to 89

Aedeagi in *Scaphisoma*: 83 to 85, *S. vestigatum* sp. n., aedeagus in dorsal and lateral views (83, 84), internal sac in dorsal view (85); 86 to 89, *S. dumosum* sp. n., aedeagus in dorsal and lateral views (86, 87), internal sac in dorsal view (88), paramere in ventral view (89). Scale bars = 0.1 mm.



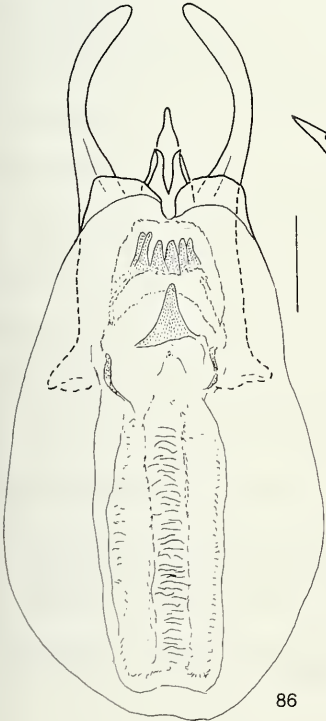
83



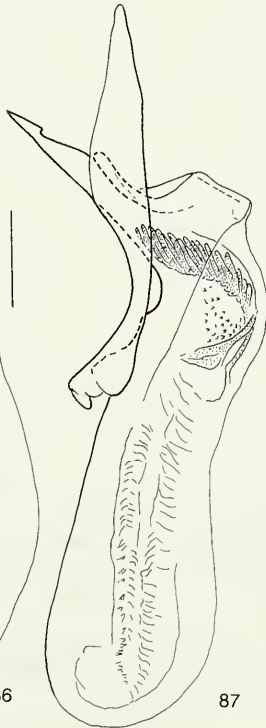
84



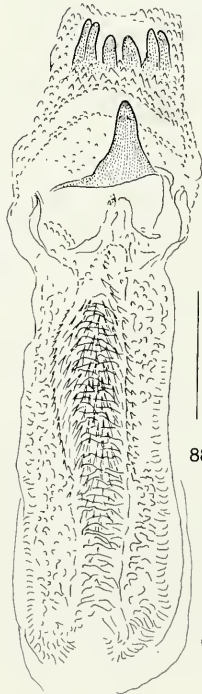
85



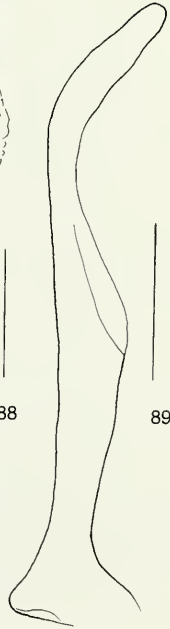
86



87



88



89

REFERENCES

- ASHE, J. S. 1984. Description of the larva and pupa of *Scaphisoma terninata* Melsh. and the larva of *Scaphium castanipes* Kirby with notes on their natural history (Coleoptera: Scaphidiidae). *The Coleopterists Bulletin* 38: 361-373.
- HANLEY, R. S. 1996. Immature stages of *Scaphisoma castaneum* Motschulsky (Coleoptera: Staphylinidae: Scaphidiinae), with observation of natural history, fungal hosts and development. *Proceedings of the Entomological Society of Washington* 98: 36-43.
- JÄCH, M. A. & JI, L. 1995. Introduction. In: Water beetles of China. Vienna, 410 pp.
- LAWRENCE, J. F. & NEWTON, A. F. 1980. Coleoptera associated with the fruiting bodies of slime molds (Myxomycetes). *The Coleopterists Bulletin* 34: 129-143.
- LESCHEN, R. A. B. 1988. The natural history and immatures of *Scaphisoma impunctatum* (Coleoptera: Scaphidiidae). *Entomological News* 99: 225-232.
- LESCHEN, R. A. B. 1994. Retreat-building by larval Scaphidiinae (Staphylinidae). *Mola* 4: 3-5.
- LÖBL, I. 1965a. Beitrag zur Kenntnis der japanischen Arten der Gattung *Scaphosoma* Leach (Scaphidiidae). *Entomologische Blätter* 61: 44-58.
- LÖBL, I. 1965b. Beitrag zur Kenntnis der Scaphosoma-Arten Chinas (Coleoptera, Scaphidiidae). *Reichenbachia* 6: 25-31.
- LÖBL, I. 1970. Revision der Gattungen *Scaphisoma* Leach und *Caryoscaptha* Ganglbauer der Tribus Scaphisomini (Col. Scaphidiidae). *Revue suisse de Zoologie* 77: 727-799.
- LÖBL, I. 1973. Über einige orientalische Scaphidiidae (Coleoptera) aus dem Museo Civico di Storia Naturale di Genova und Muséum National d'Histoire Naturelle de Paris. *Nouvelle Revue d'Entomologie* 3: 149-160.
- LÖBL, I. 1979. Die Scaphidiidae (Coleoptera) Südindiens. *Revue suisse de Zoologie* 86: 77-129.
- LÖBL, I. 1980. Beitrag zur Kenntnis der Scaphidiidae (Coleoptera) Taiwans. *Revue suisse de Zoologie* 87: 91-123.
- LÖBL, I. 1981a. Über die Arten-Gruppe Rouyeri der Gattung *Scaphisoma* Leach (Coleoptera Scaphidiidae). *Archives des sciences (Genève)* 34: 153-168.
- LÖBL, I. 1981b. Über einige Arten der Gattung *Scaphisoma* Leach (Coleoptera, Scaphidiidae) aus Vietnam und Laos. *Annales historico-naturales musei nationalis Hungarici* 73: 105-112.
- LÖBL, I. 1982. Über die Scaphidiidae (Coleoptera) der japanischen Ryukyu-Inseln. *Mitteilungen der Schweizerischen entomologischen Gesellschaft* 55: 101-105.
- LÖBL, I. 1986a. Les Scaphidiidae (Coleoptera) du nord-est de l'Inde et du Bhoutan II. *Revue suisse de Zoologie* 93: 133-212.
- LÖBL, I. 1986b. Contribution à la connaissance des Scaphidiidae (Coleoptera) du nord-ouest de l'Inde et du Pakistan. *Revue suisse de Zoologie* 93: 341-367.
- LÖBL, I. 1990a. Contribution à la connaissance des *Scaphisoma* (Coleoptera, Scaphidiidae) de l'Himachal Pradesh, Inde. *Archives des sciences (Genève)* 43: 117-123.
- LÖBL, I. 1990b. Review of the Scaphidiidae (Coleoptera) of Thailand. *Revue suisse de Zoologie* 97: 505-621.
- LÖBL, I. 1992. The Scaphidiidae (Coleoptera) of the Nepal Himalaya. *Revue suisse de Zoologie* 99: 471-627.
- LÖBL, I. 1993. Contribution to the knowledge of the Scaphidiinae (Coleoptera) of the Far East Region of Russia. *Russian Entomological Journal* 2: 35-40.
- LÖBL, I. 1997. Catalogue of the Scaphidiinae (Coleoptera: Staphylinidae). *Instrumenta biodiversitatis* I: XII + 190 pp.
- LÖBL, I. 1999. A review of the Scaphidiinae (Coleoptera: Staphylinidae) of the People's Republic of China. I. *Revue suisse de Zoologie* 106: 691-744.
- NUSS, I. 1975. Zur Ökologie der Porlinge. Untersuchungen über die Sporulation einiger Porlinge und die an ihnen gefundenen Käferarten. *Bibliotheca Mycologica (Vaduz)* 45: 1-258.
- PIC, M. 1954. Coléoptères nouveaux der Chine. *Bulletin de la Société entomologique de Mulhouse* 1954: 53-59.
- SMETANA, A. 1996. Two new species of *Deinopteroloma* from China (Coleoptera: Staphylinidae: Omaliinae). *Koleopterologische Rundschau* 66: 77-81.